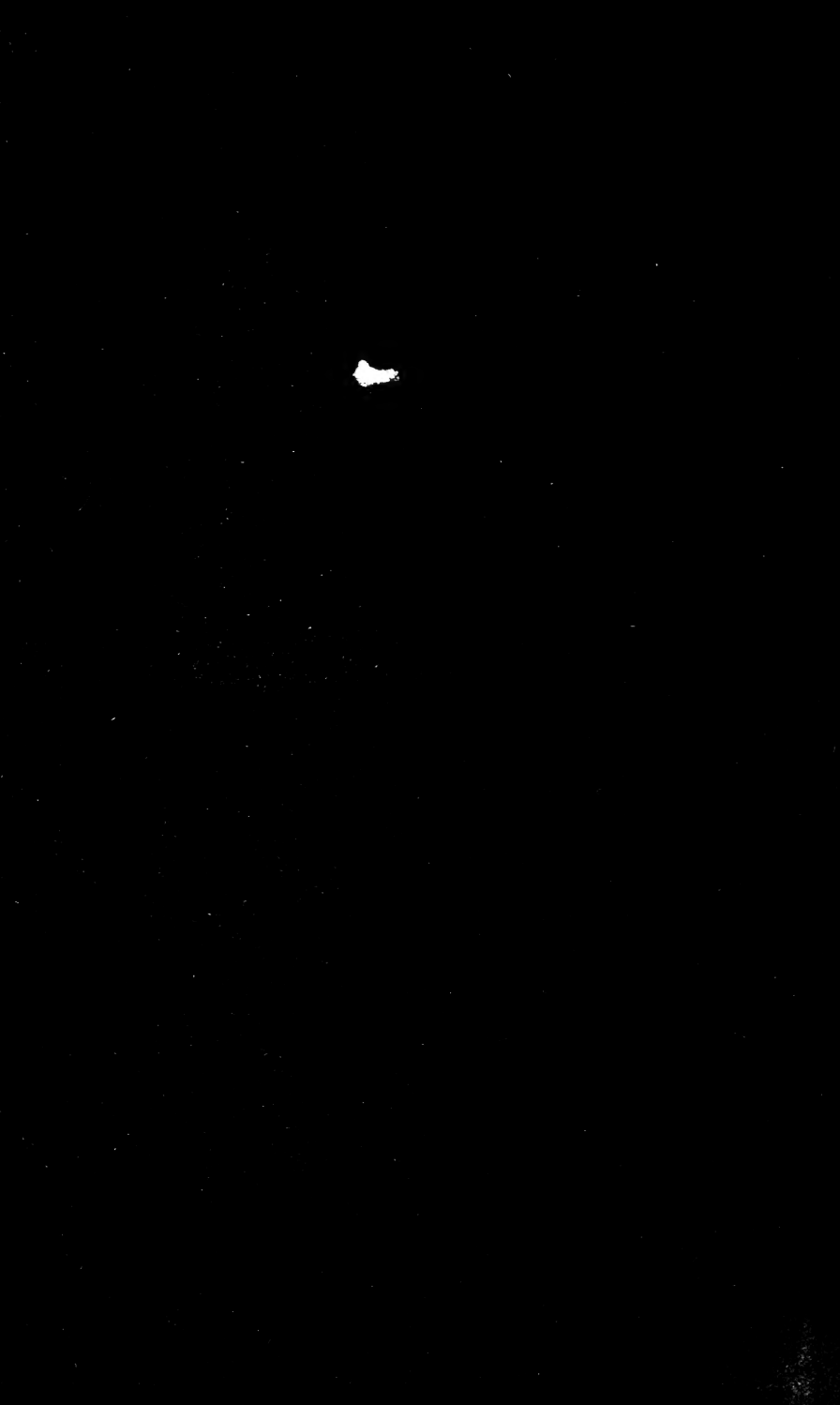


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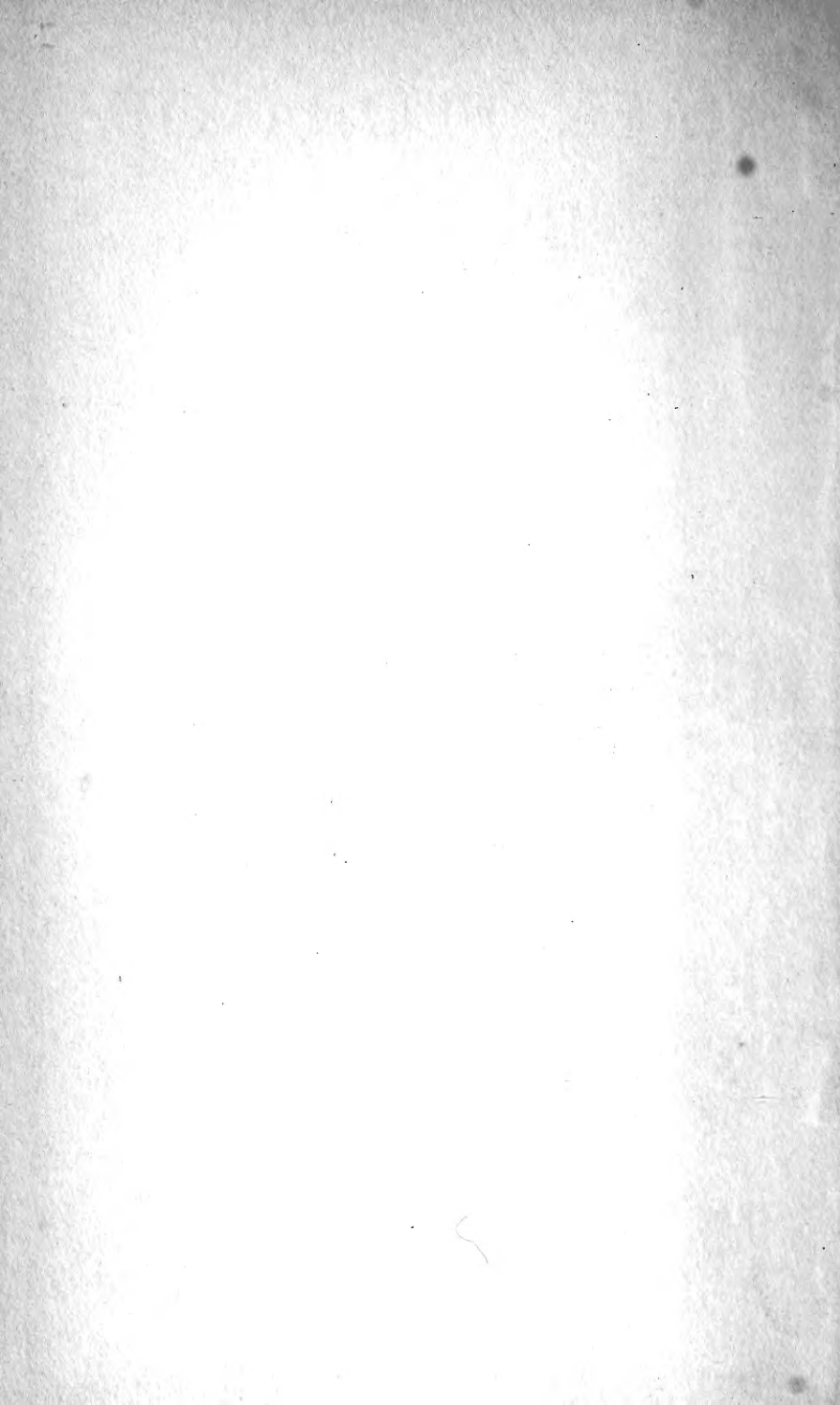
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ALIEN FLORA OF BRITAIN



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BY

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PREFACE

THIS little book owes its comparatively early appearance entirely to the energy and diligence of my wife. When unexpectedly called from the Kew Herbarium to the charge of the Botanical and Afforestation Department at Hongkong, the three or four years during which I had devoted my spare time to the study of alien plants had only resulted in the accumulation of a very large number of crude notes. Fortunately for my purpose, these were nearly complete before leaving England, and my intention was to arrange them, and publish the result at an early date. Two unforeseen circumstances, however, appeared to doom my hopes to disappointment—one was the pressure of Departmental work, the other the scarcity of books of reference in the Colony. My wife, fearing that the labour expended in the compilation of the notes would be entirely wasted, has persuaded me to dictate to her a brief summary of my conclusions upon the status and origin of each species, with the result shown in the following pages. I hope that the work may prove of some value to students of English Botany, if only it draws their attention more prominently than heretofore to the question of exact habitat, and I would ask the

indulgent reader to remember that the final stages of the book have been gone through without the possibility of referring to the standard works on the geographical botany of Europe, or even, with a few exceptions, to local English Floras.

S. T. D.

HONGKONG,

March 17, 1905.

INTRODUCTION

THE term *alien* is used to designate any species which, though now spontaneous, originated in Britain through human agency. Cultivated plants are only included when recorded as escapes from, or survivals of, cultivation. Now although alien plants are usually defined as above, and are frequently for that reason called "introduced plants," it is seldom possible to obtain any definite information as to the manner in which they actually arrived in the country. The term "introduced plant" or "introduction," moreover, is not really distinctive, for all plants, native and otherwise, must have been originally introduced to their present habitats. In the great majority of cases botanists arrive at their conclusions as to the status of a species by a careful observation of its present circumstances in the British Isles, and also of its geographical distribution beyond them. Thus a species which exists in perfectly wild and natural surroundings, both here and in the neighbouring parts of the world, is deemed indigenous, for there is no reason to suppose that its presence is due to any agent but natural dissemination at the time when the flora of North-West Europe originated. If, on the other hand, a species is always found to be connected with artificial surroundings, it is classed as an alien. It cannot often be proved to have been originally introduced by man, but, in the other alternative—viz., that it existed in the country prior to man's advent—it must once have grown in perfectly wild habitats. In order to suppose, therefore, that the

plants now confined, for instance, to our hedges and arable lands are not introduced, it is necessary to assume that they once occupied, but have now become extinct in, natural habitats. In the presence of a perfectly tenable alternative, viz., human introduction, and considering that very few provable cases of extinction of natives are known, it seems more proper to regard such species as alien. Even if the possibility of descent from wild British stock is pressed, it is more accurate to describe the species extinct as a native than to place it among our extant indigenous flora. It should be observed that a species like the Sweet Violet, now naturalised in Northern Britain, though probably derived from wild British stock, would not be called native there, and even if, becoming extinct in Southern Britain, it were reintroduced from the north, it would none the less be considered extinct as a native though of unimpeachable descent. The plea for nativity in artificial habitats has been brought forward especially in the case of certain waste ground plants. There are natural wastes, such as the haunts of wild animals, offering much the same conditions as those of domesticated cattle, and it is urged that the natural waste ground flora has been carried on by artificial conditions. The same reasoning, however, holds, and, unless a waste ground species is actually found on a natural waste, it is here included among the aliens.

More difficult is the problem presented by some of the plants which abundantly accompany human operations but also occasionally appear in wild habitats in their neighbourhood. In such cases it has been found useful to carefully insert on a large-scale map all the positions in which the plant grows over a few acres of land. When that has been done in the case of several different species it is easy to distinguish the native diagrams from the alien ones.

While this list will include, then, all species found only in artificial habitats in Britain, it will also contain some which occur in natural surroundings but which

are considered to be aliens for geographical reasons. It is a general experience, and one that is to be expected, that two areas, inhabited by a given native species, are seldom known to be separated by a large tract of similar, and apparently suitable, ground devoid of that species. Where such a gap exists it is often found that the indigenous character of the species in one or other of the areas is for some reason under suspicion. It is, of course, not impossible that such a gap might occur in the truly native range of a species, in consequence of its approaching extinction over the whole region, or from some other cause. Great caution has therefore been exercised in applying the argument of discontinuity to discredit the nativity of a species. The study of geographical distribution becomes chiefly useful when combined with an examination of the varying habitats of a species over large areas; it can then hardly fail to throw light on the status of the plant in the different parts of its total range. The total range of any plant comprises all the countries in which it occurs, and, in cases where artificial dissemination has enlarged the original area, the total range may sometimes be satisfactorily divided into concentric zones corresponding to the increasing dependence of the plant on man as it recedes from its native centre. Thus a number of species which are native in the Mediterranean area are known further north on the Continent as established weeds, but reach England only as casuals. The gradation in these cases may be attributed to climate. Again, some of the natives of the Orient have overspread Europe as weeds of agriculture, having very probably accompanied the different incursions of the human race from east to west in prehistoric times. For the purposes of this list, then, a species will not be considered a native of Britain which is not known in at least one natural habitat, nor even then if it can be shown, by geographical or other arguments, that it was introduced thither by artificial means or from an artificial source. A species

is only held to be native in a natural locality to which it has spread by natural means from a natural source ; that is, when it has been disseminated as it would be in a state of absolute nature. The disqualification of an unnatural introducing agent is exemplified in the case of garden flowers introduced by gardeners from distant lands, and surviving after the garden has reverted to a natural state. The source is, and the habitat appears to be, natural, but the agent is artificial. The disqualifying nature of an unnatural source of introduction, even when the introducing agent is natural, is well shown by the same exotic garden flowers when their seeds are dispersed by the wind or by birds into the natural vegetation of the neighbourhood. In the first examples the alien character of the species would be readily recognised in consequence of geographical considerations. It will be seen, however, that, in a majority of cases, the agency and the source of introduction must remain unknown. It is upon the remaining cause of disqualification, viz., unnatural habitat, that botanists must chiefly rely to distinguish the true alien, for it is the only one which can be easily examined in the field.

It has not been overlooked that A. de Candolle expended much labour and skill in bringing historical, philological, and physiological evidence to bear upon the status of critical species, and his great work on the subject has been largely consulted, but it is nevertheless upon the present condition of each species that botanists must chiefly rely.

The term *aboriginal* might probably be substituted for "native" in nearly all cases, for the natural agencies which can transfer seeds from natural habitats abroad to those in the British Isles must be very exceptional. It is not, however, so useful a term as "native" or "indigenous," for it implies a knowledge of the history of species which we seldom possess. If the term "aboriginal," however, were substituted for "native" in many of our local Floras, expressions such as "native on

walls, and by roadsides" and "native in hedge banks" would be shown to be inconsistent, for no species could be aboriginal in these situations.

The term *wild* is usually applied to all plants growing spontaneously.

The expressions *casual*, *colonist*, and *denizen* were used by Watson to denote decreasing stages of dependence on man. The first only is used in this work where it is applied to the least independent introductions.

The better established of our aliens can be roughly classified in accordance with the special artificial *habitats* which they affect, and names have been coined to distinguish the groups. Thus those which inhabit roadsides are sometimes known as viatical weeds, those of cultivated fields agrestal, and so on, but the classes are not clearly enough defined to derive much elucidation from the use of these terms.

If a species can spread into artificial localities in regions over which it might have been expected to, but has not, extended as a native, it must be supposed that man gives it assistance which compensates it for the natural advantages enjoyed only in its native area. Different species find the necessary support for leaving their native range in different artificial conditions. The conditions accompanying human operations of which plants seem especially to take advantage are the disturbance of the ground and the unnatural supply of plant-food. A more or less methodical series of localities might be drawn up according to the degree of mechanical disturbance or the supply of various plant-foods obtaining in each, but a few examples to show what is meant will be sufficient. Thus hedges afford an occasional disturbance of the ground in the process of cleaning the ditches and remodelling the banks. This seems to be all that is required to attract the White Dead Nettle, for instance, from its home in South-East Europe over most parts of the Continent, and as far as England. Other herbaceous perennials might be mentioned which have spread as aliens in hedge-

rows, and other habitats will occur to every field botanist which, offering the same conditions, receive the same flora. Cultivated fields, again, with their abundance of plant-food, harbour all sort of weeds, but only those gain permanence which by quick seeding can withstand the frequent ploughings. Many of the short-lived spring annuals of the Mediterranean region have thus found their way northwards.

Introducing Agents. A study of habitat is only useful in the case of the better established aliens ; there remains a large class of plants which owe their presence in Britain more to their adaptation for frequent artificial introduction than to any power of spreading along the lines offered by human operations. These are individually of short duration, but in consequence of constant reintroduction maintain their presence in our flora. They can be most easily reviewed by a consideration of the various means of plant introduction from the outside world to Britain now taking place.

By far the most important agent of plant introduction at the present time is the importation from foreign countries of the kinds of grain which are most largely used for making flour and for distilleries. In every sack countless seeds of the cornfield weeds of the country of origin come mixed with the grain. Before the grain is used these seeds are sifted out, and are either thrown away with other rubbish on waste ground or sold for feeding domestic fowls and game. In the former case astonishing crops of exotic weeds may be produced in a small area, and some of them will possibly survive and become established there for a time. In the second case the aliens will spring up here and there around cottages, along roadsides, in coppices, or wherever the birds are fed. All the species introduced in this way must be cornfield weeds. It should be remembered that corn has been continuously imported since the fourteenth century at least, and that some of our oldest recorded weeds may be due to this source.

The total foreign wheat imported annually into Britain

probably exceeds 75 million hundredweight. The 30 million from the U.S.A. come in clean, but the Russian 14 million is largely mixed with weed-seeds, and would alone account for the constant recurrence of eastern weeds around our large towns.

More than 20 million hundredweight of barley are imported into Britain annually. That from France and Germany is usually in a clean condition, but Persian, Danubian, and Turkish barley is usually much mixed with other seeds; the latter kind is that mostly used for malting, and its siftings doubtless supply a large percentage of our grain-sifting aliens. The annual import of oats is about the same as barley; more than half of it comes from Russia, and as the Russian consignments are nearly always plentifully mixed with extraneous seeds, they are probably a source of many Northern Russian weeds.

The same series of plants become introduced also by the importation of agricultural seed containing weed-seeds and the sowing of them unsifted in arable land. Vetch crops are most frequently raised from German seed, Rape seed is largely obtained from Russia, Clover seed from U.S.A., France, and Germany.

The extensive use of certain foreign seeds for feeding cage birds is certainly responsible for several of our common aliens.

Species having adhesive fruits or seeds are imported on all kinds of bales and other merchandise; they thus become established by reintroduction, if not by individual permanence, about the quays and warehouses at seaports, along railways, and on other trade routes.

Certain species of this kind are especially imported in wool, in consequence of their prevalence in the sheep pastures of some of the wool-producing countries. Two seeds, for instance, are so commonly met with in Australian wool that they are well known to the English wool manufacturers as "Burrs" and "Carrot Seeds." The former are characteristic of Port Phillip (Victoria) wool, being the fruits of *Medicago denticulata*; the

latter are *Calotis cuneifolia* achenes, and characterise especially wool imported from Sydney (N.S.W.).

Alien weeds have sometimes been traced to imported skins, hides, and furs; and considering that a million hundredweight of cow-hides and 100 million skins of other kinds are imported annually, this source of introduction might be expected to be an important one. Horticulture is responsible for a large number of aliens which, having been imported for ornament or for medicinal purposes from early times, have now become naturalised.

Hay importation is an obvious source of meadow weed introduction; the aliens traced to it are, however, not numerous, because it is only exceptionally that large quantities of foreign hay are imported.

Seaside plants have frequently been introduced in ships' ballast, especially to ports such as Swansea, which export much more merchandise than they import.

Trees and shrubs have frequently been planted among the indigenous vegetation to improve the quality of woods, to afford cover for game, and for other reasons. Such species, whether established and spreading themselves or not, often get recorded in local Floras.

The flora of railway banks has received much attention. It is composed of numbers of different elements introduced at different stages in the history of the lines. The development of vegetation on the newly made banks of the M. S. & L. Railway Extension near Rugby was noted by the writer in 1897-8, and was the subject of a paper published in the Rugby School Natural History Society Report for 1898.

Summary. Out of the 924 aliens enumerated in the Flora, 123 are old-established weeds of uncertain origin, 332 are due to horticulture and arboriculture, while 206 are grain-sifting aliens of recent appearance and of little permanence. Of the 170 species referred to in square brackets, the greater number are common weeds which have usually been recorded in our local Floras from artificial habitats only, but which the author for various reasons believes to be true natives.

BOOKS, HERBARIA, AND MSS. CONSULTED.

Nearly the whole of the information contained in this book was collected in the magnificent Herbarium and Library of Kew. The work could hardly have been done in any less completely equipped establishment, for it has been necessary to obtain details of the native area of British plants over the greater part of Europe and Western Asia, and the existing compilations upon the subject afforded little help. In them no discrimination is attempted between the truly native area and the area over which the plants are wild. Reference has therefore been necessary to individual foreign local Floras in order to ascertain the exact habitats and status of each species.

Books.

It would serve no useful purpose to enumerate the many hundreds of British and foreign local Floras and periodicals consulted, but the following works which have been of especial use may be mentioned :—

A. de Candolle, *Géographie Botanique.*

H. C. Watson, *Cybele Britannica.*

Journal of Botany.

Reports of the Botanical Exchange Club.

Public Herbaria.

Kew Herbarium. All the writer's identifications for the Flora were made there. Much information has been obtained from the Herbarium labels respecting regions of which no published botanical records are available. The Borrer and Watson Herbaria at Kew were consulted for records.

British Museum Herbarium. The British section was carefully gone through and a large number of records noted for the list.

Individual Collections.

(1) A collection of seventy-six species of aliens found at Oulton Broad, Suffolk, from 1898–1902 by Mrs. Baker, of Oulton Broad.

(2) Thirty-four species found by Mr. Fraser Robinson near Hull Docks in 1901.

(3) About a hundred species found by the author at Twerton, near Bath, in 1897.

MSS.

(1) Mr. Watson's MS. of the *Cybele Britannica* and other of his notes preserved in the Botanical Department of the British Museum.

(2) Notes by the Rev. E. S. Marshall on Mr. S. T. Dunn's *Preliminary List of the Alien Flora of Britain*. Mr. Marshall's notes have been of the greatest service and have been freely used throughout. It is not the first time that the author has had occasion to acknowledge Mr. Marshall's kind and invaluable help.

(3) Miscellaneous notes on British Aliens by Mr. A. Smith, of Grimsby. Mr. Smith was himself engaged in collecting materials for an Alien Flora of Britain. On hearing, however, that one more fortunately situated than himself for carrying out the work was engaged on the same task, he, with rare generosity, placed his notes at the author's disposal.

(4) The Rev. E. A. Woodruffe-Peacock contributed numerous notes.

(5) Mr. I. H. Burkill contributed a London Catalogue marked with additional aliens and other notes.

Besides those mentioned above, my sincere thanks are due for various acts of kindness in connection with my work to Mr. A. O. Hume, Mr. A. Bennett, to Mr. Britten and Mr. E. G. Baker at the Natural History Museum, Mr. C. E. Salmon, Professor Trail, Mr. A. Somerville, Professor Boulger, Mr. G. Nicholson, Mr. B. D. Jackson, and Mr. Charles Bailey.

PLAN OF THE LIST.

Natural Orders follow each other in the sequence of the *Genera Plantarum*. Genera and species are alphabetical.

The nomenclature is that of the *Index Kewensis*.

Besides aliens, certain species are referred to in brackets whose exclusion from the list seemed to call for explanation.

ALIEN FLORA OF BRITAIN



DICOTYLEDONES

RANUNCULACEÆ.

Aconitum Cammarum, L. A native of Southern Europe, found rarely as a garden escape in Britain.

Aconitum Lycoctonum, L. Native of many of the mountain districts of Europe. An old garden plant, which has been found in a semi-naturalised state in several places in Northern England.

Aconitum Napellus, L. Native of the continent of Europe. It is recorded from many counties, often as an indigenous plant. Especially is this the case in Hereford, Monmouth, Derby, and Somerset, where it has the appearance of being perfectly wild along shady streams. The following facts, however, relating to its history and to its geographical distribution, make it appear probable that this is one of the many beautiful wild flowers for which we have to thank our ancestors' love of gardening. It has

been grown in gardens from the earliest times, and it must have been familiar to the older botanists, yet there is no record of it as a wild plant until about ninety years ago. The geographical range of the species extends to Normandy, but there are two forms in Western Europe, and the one which reaches furthest north as an undoubted native is not the form found in England. The British form is identical with that of the mountains of Southern Europe, whence it was perhaps originally introduced into our gardens.

[**Actea spicata**, L. There can be no question that this widely spread North European species is a native. The early records, it is true, look suspicious, both Ray and Gerarde knowing of it only near houses and parks. It was not, however, a cultivated plant, at any rate at that time, and the unanimity of later writers as to its status as a native in Yorkshire and Westmoreland leaves no choice in the matter.]

[**Adonis æstivalis**, L. Recorded by Withering, from Salisbury Plain. The plants, however, which Smith saw from this locality were *A. autumnalis*, L.]

Adonis autumnalis, L. A cornfield weed of old standing in Britain as in most parts of the Continent. The species is most abundant in the east of Europe, and may perhaps be indigenous there. It is a frequent constituent of colonies of weeds in England arising from the siftings of Eastern corn.

Adonis flammea, Jacq. A cornfield weed of the Orient which has occurred in places where siftings of barley from that region have been thrown.

Anemone apennina, L. This native of the south of Europe has long been a favourite garden flower, and in England, as in other parts of Northern Europe, not infrequently occurs in a more or less naturalised state.

Anemone Hepatica, L. A native of Central and Southern Europe which, like the last, owes its introduction into this country to horticulture. A large patch of it in a coppice on the North Downs, in Surrey, indicates its tendency to become naturalised under favourable conditions.

[**Anemone ranunculoides**, L. This is a plant which grows very readily in Britain, and persists for a long time where once planted. It is thus found in an apparently naturalised state in parks and in the neighbourhood of gardens in various parts of the country. Its presence, however, in Scandinavia, Denmark, and Northern France in an undoubtedly indigenous state necessitates a careful examination of the supposed non-native records in this country. There are several stations for the species in the eastern counties (*e.g.*, the wood at Abbots Langley in which Hodgson in 1839 recorded it as common) that remain open to doubt, and may be taken, in conjunction with the geographical range, to warrant its acceptance as a native of Britain.]

Delphinium Ajacis, L. A common weed in Central and Southern Europe which is occasionally found among crops grown in England from imported seed. It is, however, more frequently seen in the neighbourhood of gardens from which it has escaped. It is common in cultivation. To judge from Fritsch's record "*inter*

frutices" in Servia (*Verh. Zool. Bot. Gesellsch. Wien*, xlix. [1899] 239), it would appear to be a native of the east of Europe.

Delphinium Consolida, L. This species has been so frequently confused with the above that it is safer to submit the note upon the latter as applicable to both in conjunction.

Delphinium orientale, L. A garden escape. It is a weed of cultivation in South-East Europe.

Eranthis hyemalis, Salisb. A native of the south of Europe which has long been cultivated and is now naturalised in most of the countries of Northern Europe. In England it frequently occurs in a spontaneous state and often in great profusion, but always near houses and gardens.

[**Helleborus viridis**, L. Native in woods and bushy places in England and Wales, especially on chalk and limestone soils. It is, however, more common as a relic of cultivation, persisting as it does where once planted until, its more transitory human surroundings having disappeared, it may perhaps have only a few fruit trees or a boundary mound to show its origin. Ray and Gerarde knew it only in such situations, and such noted botanists of more modern times as H. C. Watson have doubted its claim to a place in the British Flora; but its permanence in certain localities against which no suspicion rests and its presence in similar places in Normandy and Belgium seems to warrant its inclusion as a native of Britain.]

[**Myosurus minimus**, L. Native in England and Wales on damp bare ground. The localities from which the species is almost invariably recorded both in Britain and throughout the rest of its range are cornfields. It might in consequence be inferred that artificial conditions were necessary for its presence in Europe, and that it could not therefore be considered indigenous in that region. There are, however, a few records of the plant as growing in truly wild habitats, such as broken ground in meadows and woods. Mr. Fryer, in an interesting note upon the species in the *Journal of Botany*, 1883, 280, mentions a spot in Cambridgeshire where the plant grew plentifully under trees. The ground had been trodden and kept bare by cattle, affording a kind of habitat which, as Mr. Fryer truly remarks, would be available without the influence of man.]

Nigella arvensis, L. A common weed in the cornfields of Central and Southern Europe and the Orient which has been observed on one or two occasions among colonies of aliens arising from corn-siftings.

Nigella damascena, L. Like the last, a common weed of Mediterranean fields, recorded many times from waste places in England and usually due likewise to foreign corn importation. It has also, however, been observed as a garden escape.

Nigella sativa, L. A weed of cultivated ground in Eastern Europe well known as a garden plant in England and occasionally found as an outcast from gardens.

Pæonia corallina, Retz. A native of rocky woods and

bushy places in Southern Europe, long cultivated in this country. It has numerous records as a garden escape and a few as a naturalised plant. In its station on the Steepholmes it was once considered native, but following the learned author of the *Flora of Somerset*, who, after a careful review of the facts, relegates it to the status of an introduction, it will be safer to leave it for the present in that position.

Pæonia officinalis, L. The common *Peony* of gardens. Occasionally noticed as an outcast or relic of garden culture. It is a native of the woods of Southern Europe.

Ranunculus arvensis, L. A widely spread and often plentiful weed of cultivation in Britain and the rest of Europe. It probably originates from Central Asia. Paulsen, in *Vidensk. Medd. Kjobenh.* (1901) 1902, 307, records it in moist meadow land at Samarkand.

Ranunculus falcatus, L. A cornfield weed of Southern Europe which has been observed as a casual in places where fowls have been fed on siftings of foreign wheat.

Ranunculus muricatus, L. A common weed in the great corn-producing regions of the East, and so characteristic of the numerous recorded colonies of corn-sifting aliens in Britain.

Ranunculus pensylvanicus, L. A native of North America which has established itself along many of the trade routes of the world. It has been observed near Birkenhead Docks.

[**Ranunculus sardous**, Crantz. Native in most counties of England and Wales in marshes and damp pastures, particularly within the influence of the sea. It is, however, almost always recorded as occurring only in cultivated and waste places, and no indication given that it is anything more interesting than an artificially sustained weed. In the north of England and in Scotland it becomes a casual introduction.]

Ranunculus trilobus, Desv. This weed of cultivated and waste ground in the Mediterranean region has occurred as a casual in connection with grain-siftings.

Thalictrum aquilegifolium, L. Has been found as an escape from gardens. It is a native of Central Europe which has long been in cultivation in Britain.

BERBERIDACEÆ.

Berberis Aquifolium, Pursh. A native of North America, much used in some parts of England for making fences. It occasionally appears in situations which lead to its record as wild, being doubtless in many cases bird-sown.

[**Berberis vulgaris**, L. Native in woods in Yorkshire (according to Mr. Arnold Lees) and probably in other counties also, but in consequence of its much greater frequency as a planted hedge shrub than with any appearance of wildness it has been excluded by most authors. The admitted nativity of the plant in France, Belgium, and Germany, taken in conjunction with its

occurrence in natural woods in England, leaves apparently no logical ground for rejecting the species as a native of Britain.]

Epimedium alpinum, L. Native of alpine pastures in North America, Siberia, and Eastern Europe. It is much cultivated and has become naturalised near cultivation in France, Germany, Belgium, and England.

PAPAVERACEÆ.

Argemone mexicana, L. A cosmopolitan weed, probably Central American in origin. It has occurred a few times in England about quays and ballast heaps.

Chelidonium majus, L. Native in shady mountain woods in the east of Europe, and common in artificial surroundings about villages to the north and west as far as Britain. That its native range once included England is indicated by Mr. Clement Reid's discovery of its seeds preserved with other plant-remains in interglacial deposits in Sussex. Thus it is prior to man in North-West Europe, though not now known except in connection with human habitations.

Corydalis bulbosa, DC. Native of woods in Southern and Central Europe. In England frequently reported as naturalised near gardens.

Corydalis lutea, DC. Native of rocky hills in Southern Europe. Naturalised in many places in England on old walls as the result of garden culture.

Dicentra formosa, Walp. A favourite garden flower, originally from North America. Occasionally naturalised near gardens.

Eschscholzia californica, Cham. A native of North America which has become common in English gardens, and is recorded occasionally as an escape and even as a weed in cultivated land.

Fumaria agraria, Lag. A native of the Mediterranean region and a frequent weed of cultivated ground in some parts of Southern Europe. A rare grain introduction in England.

Fumaria Boræi, Jord. This species, like the other capreolate Fumarías, is probably native in bushy and rocky places in South-West Europe, and possibly very rarely so in the North-West, though it has not been yet recorded from natural habitats. In England, though always associated with agriculture, it seems to be more common in the wilder regions and to shun the purely agricultural districts.

Fumaria confusa, Jord. This species has much the same position in Britain as the last-named. In the absence of records of natural habitats it must be classed as an introduced weed.

Fumaria densiflora, DC. A cornfield weed throughout Europe. Rare in England.

Fumaria muralis, Sond. Native of mountain woods in Southern Europe. Further north a weed of cultivated ground. Rare in England.

Fumaria officinalis, L. Native in bushy places in Southern Europe. In England it is a common weed of cultivated ground and one of very long standing, to judge from Mr. Clement Reid's discovery of its seeds associated with those of other weeds of cultivation among Neolithic remains in Scotland.

Fumaria pallidiflora, Jord. A native of bushy places in South-West Europe. In England, like the other capreolate Fumarías, hardly more than a weed of agriculture.

Fumaria parviflora, Lam. Native in the Orient. Griffith collected specimens (now in Kew Herbarium) from shingle in fissures of rocks in Afghanistan. Throughout Europe it is a weed of cultivated ground. Rare in England, and mostly on calcareous soils.

Fumaria spicata, L. Native of pastures in Southern Europe. Once recorded in England as a casual introduction with grass seed.

Fumaria Vaillantii, Lois. Native in the Mediterranean region, and a weed of cultivation from England to India. In England it occurs chiefly on the chalk in the south-east.

Glaucium corniculatum, Curt. A native of pastures in the Mediterranean region, and a weed of cultivated ground in many parts of the Continent, and even reaching Britain. Here, however, it is more usually a casual, sometimes of garden origin, sometimes due to grain introduction.

Hypocoum procumbens, L. A native of dry rocky

and sandy ground in the east of Europe, and very common in some of the corn-producing districts as a weed of agriculture. It has been observed in a few localities in England in connection with grain-siftings.

Papaver Argemone, L. A widely distributed corn-field weed throughout the north temperate regions of the old world. Common in Britain.

Papaver dubium, L. Native on dry barren hills in Southern Europe. A weed of cultivated and waste ground throughout Europe. In England it appears to be less dependent on man than its congeners, and has been designated a native in some local Floras, but no natural localities have been adduced in support.

Papaver hybridum, L. Native in the same localities as the last, and spread over about the same area as a weed. In England not common, and usually capricious in its appearance.

Papaver Rhœas, L. Native with the last two. An ancient and abundant cornfield weed in Europe. The commonest of the Poppies in Britain.

Papaver somniferum, L. The variety with setose peduncles is native in the Mediterranean area on dry downs, and is an agricultural weed as far as Southern England. The glabrous variety of gardens (the Opium Poppy) is common in Britain as a casual.

Platystemon californicum, Benth. A garden plant originally from North America. It has been observed in Britain as a casual garden escape.

Roemeria violacea, Medic. A native of the Mediterranean region. It is established as a weed of cultivated ground in some of the eastern counties, and is also on record as a grain alien.

CRUCIFERÆ.

Alyssum calycinum, L. It has been recorded in numerous localities in Britain, frequently in clover or cornfields, never as a wild or even as a naturalised plant. Its power of producing seed in a remarkably short time in light sandy soil gives it a certain degree of permanence in some cultivated areas. The species is probably one of those introduced with foreign agricultural seed. It is a native of dry stony ground in Central Europe, becoming rare and of uncertain status towards the northern coasts in France, Belgium, and Germany.

Alyssum campestre, L. A native of Southern Europe which has been recorded once as an alien in Cornwall.

Alyssum hirsutum, Bieb. A somewhat common cornfield weed in the East which has occurred in England among aliens introduced with Syrian barley.

Alyssum incanum, L. A native of dry places in Central Europe and Siberia, being most abundant in Austria and Bulgaria. The species shows a marked tendency to extend itself along railways and roads. It may indeed be safely assumed that traffic was the cause

of its introduction and is the means of its distribution and its permanence in this country.

Alyssum maritimum, Lam. Native in the Mediterranean region and in the Canary Islands. Being a favourite garden plant in Britain and remarkably hardy, the plant is frequently found in a semi-wild state near gardens, and has even become naturalised in a few spots.

Arabis albida, Stev. Indigenous in the rocky hills of South-East Europe and Western Asia. It is a favourite cottage garden plant, and is not infrequently recorded as an escape and even occasionally as naturalised on old walls.

Arabis alpina, L. A native of the Alps of Europe and of the extreme North. It has been recorded in one or two places in England as an escape from gardens.

Arabis arenosa, Scop. The native range of this species extends from Belgium and Southern Sweden to Central Europe. It would not therefore be surprising to hear of its discovery in stony places in Southern England. It has, however, so far only been recorded in connection with weeds introduced with foreign grain.

Arabis Turrita, L. Native of stony woods and rocky slopes in the greater part of Europe, Northern Africa, and Western Asia, but not reaching Holland or Northern France. It has long been known in England as a denizen on old walls, and as the first records were from the neighbourhood of Botanic Gardens it is quite possible that it originally spread from them.

Armoracia rusticana, L. Native in Eastern Europe. It is usually recorded as an escape from cultivation, but Schur (*Fl. Transsilvaniae*, p. 67) records it on stream banks and in marshy meadows, and it may possibly be more widely distributed in such situations in Central and Southern Europe than the Floras would indicate. The plant certainly becomes more and more obviously associated with horticulture north-westwards. In the British Isles it can hardly be called naturalised, seldom, if ever, producing seed, and never being found far from the places where it has been cultivated.

Barbarea præcox, R. Br. Native in damp grassy places, on river banks, &c., in Southern Europe. It is fairly common in Britain, but always under suspicious circumstances, as records also show it to be in the whole of Northern Europe. It was formerly much cultivated as a salad plant, and it doubtless owes its presence here and in North America, where it is also naturalised, to this use.

[**Barbarea stricta**, Reich. Native by rivers and similar places throughout Northern Europe, Asia, and North-West America. It is found in these situations in England, and any statement as to its exotic origin in such habitats would have to be supported by very strong evidence. Such statements are to be found in many local Floras, but they are as a rule insufficiently supported. The species may certainly in some cases be introduced, but its claim to be a native of Britain is not weakened thereby.]

Boreava orientalis, Jaub. and Spach. A Syrian species received with other grain-imported aliens from Burton.

Brassica adpressa, Boiss. A native of river banks and sea shores in the Mediterranean region, and a weed of cultivation in most parts of Europe and Western Asia. In England it has been several times recorded from localities where foreign grain-siftings have been thrown away, and also in fields sown with foreign seed.

Brassica alba, Boiss. Indigenous in the natural pastures of Southern Europe and Northern Africa. In Britain and Northern Europe in general it is only a weed of cultivated and waste ground.

[**Brassica campestris**, L. This name, taken in a wide sense, includes a wild form (*Brassica sylvestris*, H. C. Watson) indigenous in meadows in Southern England. Other forms—Rape, Swede, and Turnip—are frequent escapes from cultivation.]

[**Brassica Cheiranthus**, Vill. Native in rocky and sandy ground from the Peninsula through Western France to Normandy and Western England. In the greater part of its range it shows a tendency to spread over dry waste ground, railway banks and hedgebanks, and in England it is very rare except in such situations.]

Brassica dissecta, Boiss. A weed of Southern Europe which has appeared on several occasions among colonies of grain aliens.

Brassica elongata, Ehrh. Native of dry deserts in Asia Minor, and a weed of cultivated and waste ground in various parts of Europe. Several times recorded in waste places in England, once in connection with grain-siftings.

Brassica Erucastrum, L. A native of sandy and rocky ground in Spain, and probably elsewhere in South-West Europe, where it is generally very common on waste ground, and along roadsides. It has been recorded on several occasions in different parts of England under conditions that suggest commercial traffic as the agent of its introduction.

Brassica hispida, Boiss. A cornfield weed of the Western Mediterranean area which has appeared rarely in England in connection with grain-siftings.

Brassica juncea, Coss. Largely cultivated in parts of temperate and tropical Asia for the same purpose as *B. alba* is in Europe. The species has been recorded once or twice in waste places in Britain. It probably reached this country with merchandise from the East.

Brassica longirostra, Boiss. A Spanish plant once recorded from a railway bank in Warwickshire.

[**Brassica nigra**, Koch. Certainly native in Southern England on stream banks. More common as a weed of cultivated and waste ground, and in the north known only in such localities.]

[**Brassica oleracea**, L. A native of the southern coasts of England, Wales, and perhaps Ireland, growing as naturally on the cliffs here as it does in the rest of Europe. It is, however, much more common as a relic of cultivation.]

Brassica Sinapistrum, Boiss. An old-established and abundant weed of cultivated land in Britain as it

is throughout Europe, Northern Africa, and Western Asia. Its native range cannot be traced.

Bunias orientalis, L. A native of the meadows of South-East Europe, and spread as a weed of roadsides and cultivated ground over the greater part of the Continent. In England it occurs in arable land, on river banks in the neighbourhood of towns and such-like places, being doubtless introduced with grain and agricultural seed. It shows signs of remarkably rapid extension in recent years.

Camelina sativa, Crantz. Probably native in the South-East of Europe, throughout the whole of which continent it is a very common weed of cultivation. In Britain it is a frequent plant in cultivated fields, and especially those upon which imported seed has been used. -

Camelina sylvestris, Wallr. A plant of similar range but much less common occurrence than the last. It has only been found once or twice in England, in places where it doubtless owes its presence to imported seed.

Capsella Bursa pastoris, L. In Britain, as in most temperate countries, one of the most abundant weeds in all localities frequented by man. It certainly owes its maintenance, in the great majority of its habitats, to human agency, and it apparently does not persist in ground which is left undisturbed by man. It is therefore probably not indigenous in this country.

Carrichtera Vella, DC. A native of the dry hills of the Mediterranean region which is said to be common as a weed of cultivated fields in many parts of Europe and Western Asia. It is only as a grain-sifting introduction that it has been recorded in England.

Cheiranthus Cheiri, L. The *Wallflower* is indigenous among rocks in the Mediterranean region. In the rest of Europe, including Britain, it is naturalised on walls, in quarries and on cliffs in the neighbourhood of houses, as a result of its general and long-continued cultivation in gardens.

Chorispora syriaca, Boiss. This weed of the Syrian deserts, and of cultivated and waste ground in their neighbourhood, has once been recorded as a grain introduction in England.

Chorispora tenella, DC. Has also been recorded once under similar conditions. It is a native of the Caspian region.

Conringia austriaca, Sweet. A native of dry stony hills in East Central Europe, and becoming a cornfield weed there. Once recorded in England. Probably a grain introduction.

Conringia orientalis, L. A common cornfield weed in Europe, especially on calcareous soils. In Britain rarely in cultivated ground, frequently among grain-sifting aliens on waste ground.

Crambe orientalis, L. A native of rocky ground in Asia Minor and Persia. It has once been recorded in

Scotland. If the determination was correct, the species would probably owe its presence to garden culture.

Diploaxis erucoïdes, DC. A common weed of dry cultivated ground in the Mediterranean region which has been recorded several times in Britain as a grain-sifting introduction.

Diploaxis muralis, DC. Native of dry rocky ground in the Mediterranean area, and possibly on the sea-coast further north. In Britain it is confined to old walls, rubbishy places about towns, and dry cultivated ground. It shows signs of recent and increasing extension, being absent in the older Herbaria, but now becoming exceedingly common along railway embankments and other lines of traffic as far north as Scotland.

Enarthocarpus lyratus, DC. A weed of cultivated ground in various parts of the Mediterranean area, especially in Greece and Egypt. It has occurred in waste places in a few scattered localities in England, in some at least of which introduced grain was the cause of its appearance.

Eruca sativa, Mill. A weed of cultivated and waste ground from the Mediterranean area to Turkestan, including the great cornlands of South-Eastern Europe. It is rather frequently recorded in Britain in connection with the siftings of Eastern grain.

Eruca vesicaria, Cav. This is stated to have been found by Dr. Leitch at Sillioth, in the locality which has produced such large numbers of corn-sifting aliens.

As, however, the species is a native only of dry hills in Southern Spain, it is a most unlikely one to owe its introduction to grain importation, and its presence there, if the identification is correct, is not easy to explain.

Erucaria aleppica, Gaertn. A weed of waste and cultivated ground from Arabia to Greece. Once recorded as a grain introduction in England.

Erysimum cheiranthoides, L. A weed of cultivated and rubbishy ground in most of Europe. It is not recorded from natural habitats in any part of its range. In Britain it becomes rapidly rarer and less permanent northwards.

Erysimum hieracifolium, L. Mr. Woodruffe-Peacock has recorded this Southern European weed as an alien in two places in Lincolnshire.

Erysimum perofskianum, Fisch. and Mey. A native of Beluchistan and Afghanistan. Cultivated in English gardens, and occasionally found as an escape in their neighbourhood.

Erysimum repandum, L. A weed of cultivated fields in Central and South-East Europe. Recorded in several places in England, usually on waste ground about the big towns, where it may probably owe its presence to foreign corn importation.

Erysimum virgatum, Roth. A native of dry bushy places in Central Europe, said by Babington in his *Flora of Bath* to occur about that neighbourhood. Presumably an alien there.

Euclidium syriacum, R. Br. A weed of cultivated and waste ground from Hungary to India. Once found by the writer on mud, dredged from a pond, in the village of Albury, Surrey. The only way of accounting for its presence there would be to suppose it sifted from foreign grain and used together with the other siftings for feeding fowls, or some such purpose, in a place from which it could be washed into the pond.

Goldbachia lævigata, DC. Once found with other corn-introduced aliens in the neighbourhood of Oulton, Norfolk.

Hesperis matronalis, L. Native of damp, grassy, and bushy places from Southern Europe to Central Asia. It is the familiar *Dame's Violet*, so long cultivated as a garden flower in Northern Europe. Ray and Hudson both wrote of it as a British plant. At the present time it is not uncommon on river banks, in damp ditches, and in woods, where it has more or less obviously escaped from some garden hard by.

[**Iberis amara**, L. Native of Southern England and the extreme west of the Continent, in woods and stony places. Throughout its range it is, however, much more common as a cornfield weed, and as a garden escape, than as a native. In fact, in England there are only two reliable records of the species in natural habitats.]

Iberis umbellata, L. Native in a few places in Southern Europe. It has been commonly cultivated in English gardens for centuries, and appears occasionally as an escape.

Isatis tinctoria, L. Apparently native in South-East Russia, where Korshinsky recorded it growing, as a native, on exposed hillsides and in bushy places. Its cultivation from the earliest times has led to its occasional appearance in an apparently spontaneous state in other parts of Europe, including England. It is one of those species which occasionally appears in plenty when ground is newly turned, doubtless on the site of former woad-crops, from which stragglers have persisted and seeded from time to time, until some fortuitous disturbance of the ground has given the seeds a chance of germinating.

Lepidium campestre, R. Br. A plant of roadsides, cultivated and waste ground, throughout Europe and North America. In England it has long been known as a plentiful weed in ground unintentionally prepared by man, but it is nowhere known in this country, or elsewhere, in perfectly natural habitats. It is possible that it is a derivative of the wild *Lepidium hirtum*, its annual habit and other distinctive characters having resulted from adaptation to agricultural surroundings.

Lepidium coronopifolium, Fisch. Probably a native of Persia and Turkestan. A frequent weed in parts of Eastern Europe, and once recorded as a casual in England.

Lepidium Draba, L. Native of dry sterile ground in South-East Europe, and Western Asia, being especially abundant in the deserts of the Caspian region. Though apparently only introduced into Britain in the early part of the nineteenth century, it has now become a not infrequent weed on rubbishy ground, on railway and

canal banks, and such-like places, particularly in the neighbourhood of large towns, and readily becoming naturalised.

Lepidium graminifolium, L. Native in a few spots in the Mediterranean region on dry pasture land, and a common waste ground plant of the greater part of Central and Southern Europe and Northern Asia. Once recorded among grain-sifting aliens in England.

[**Lepidium hirtum**, Sm. Native in France and Spain in pastures, on sandy heaths, and on rocks. There seem to be no definite records of it in natural localities in Britain, its usual stated habitats being roadsides and waste places, but from its appearance in many districts of Southern England, for instance on Dartmoor in Devonshire, there can be little doubt that its native range extends at least as far north as this.]

Lepidium lacerum, C. A. Mey. Native of stony ground in Persia and Central Asia. It has once been recorded as a wool introduction in England.

[**Lepidium latifolium**, L. The species ranges from Western Europe and Northern Africa to Siberia. There can be little doubt that it is native in some parts of the coast of Britain, where it has long been known in wild habitats, but in most of its localities it must be admitted to be a relic of cultivation (for it was once widely grown in gardens), its long creeping roots rendering it capable of surviving for some time when once planted.]

Lepidium perfoliatum, L. Appears to be a native of Eastern Europe and Western Asia, where it grows in dry desert regions as well as in cultivated land. It is a characteristic weed of some parts of the grain-producing area of Eastern Europe, to which fact it owes its appearance in England in places where grain-siftings have been thrown.

Lepidium ruderale, L. A species of wide range, extending completely round the north temperate zone, but almost always in places frequented by man. It may possibly be truly native in Afghanistan, for there is a note by Aitchison in the Kew Herbarium that the species is "abundant in lands from which the river had retired in spring," in the Hari-rud valley. It is common in some parts of South-East England, but only in waste places.

Lepidium sativum, L. Garden Cress. Said to be indigenous in Persia; extending to cultivated fields in Eastern Europe and Western Asia, but only found casually near gardens in other parts of Europe, including England.

Lepidium virginicum, L. This North American weed has been recorded in several localities in England in connection with town rubbish. It is probably sometimes grown in gardens in the place of ordinary cress.

Lunaria annua, L. A native of woods in Southern Europe. It is a favourite garden plant in England, and occasionally appears in banks and hedges. Its persistence in certain localities of this kind has given the impression of its being wild.

Malcolmia africana, R. Br. A native of sandy places in the Mediterranean region, and a common weed in cornfields in some parts of the same area. It has occurred once or twice in England among corn aliens.

Malcolmia crenulata, Boiss. A native of Syria, which has more than once been recorded in connection with corn aliens in England.

Malcolmia littorea, R. Br. A native of the shores of the Western Mediterranean area which has likewise occurred among corn aliens in Britain.

Malcolmia maritima, R. Br. This favourite garden annual, native of the sea-coasts of Southern Europe, has frequently been noticed as a garden escape in Britain.

Matthiola bicornis, DC. A cornfield weed of Eastern Europe found on several occasions among the siftings of introduced grain in England.

Matthiola incana, R. Br. Native of rocks near the Mediterranean Sea. It has been recorded as established near the coast in three places in England, namely, in Somerset, in Devon, and in the Isle of Wight. In the two first cases it is considered by local botanists to be of garden origin. Bromfield considered it native in the Isle of Wight, but its range as a native plant outside Britain is opposed to this supposition.

Matthiola tristis, R. Br. Has once been recorded in waste ground in England. It is native in rocky ground in Southern Europe.

Moricandia arvensis, DC. A cornfield weed of the Mediterranean area which has occurred in several localities in England among colonies of corn-introduced plants.

Myagrum perfoliatum, L. A cornfield weed of Southern and Central Europe, occasionally found in places where corn refuse has been thrown away in England.

Nasturtium austriacum, Crantz. A cornfield weed of Southern and Central Europe, once recorded from Ireland in connection with foreign grain introductions.

Neslia paniculata, Desv. A very common weed in some parts of Central and Southern Europe, and a characteristic associate in England of plants introduced with foreign grain and agricultural seed.

Raphanus Landra, Moretti. A weed of cultivated and waste ground in South-West Europe, and occasionally recorded in England where foreign grain is introduced.

Raphanus Raphanistrum, L. Native in pastures, and on the seashore of the Mediterranean area. Further north in Europe, including Britain, it becomes a common weed of cultivated and waste ground.

Raphanus sativus, L. A frequent garden outcast in Britain. The Radish has been cultivated in Europe from very early times. Tradition derives it from China.

Rapistrum linneanum, Boiss. and With. A very common weed of cultivated fields in some parts of the Mediterranean region. Once found among aliens derived from corn-siftings in Britain.

Rapistrum orientale, DC. Native in the pastures of South-East Europe. A weed of cultivated ground in the greater part of the Continent, but in England only a casual grain introduction.

Rapistrum perenne, All. A weed of Central and Southern Europe which has been recorded from a few English localities in connection with imported grain.

Rapistrum rugosum, All. A common cornfield weed in some parts of the Mediterranean area, and more rarely in other parts of Europe. In Great Britain it is very rare in cultivated ground, but is more commonly met with among the siftings of foreign grain.

Securigera Coronilla, DC. A common weed of cultivated ground in South-East Europe. Once recorded in England among weeds introduced with grain from that region.

Senebiera Coronopus, Poir. A common weed of roadsides, farmyards, and such-like situations in Britain. It has not yet been recorded in quite wild habitats, such as it occurs in in the Mediterranean region, though it is quite likely that it may have maintained itself about the haunts and tracks of wild animals before man's advent in the country. It should therefore for the present be classed as a long-established introduction.

Senebiera pinnatifida, DC. A weed of roadsides and waste ground, especially near the sea in many parts of Great Britain. No earlier record of it is known than Hudson's in 1778, and, indeed, it shows signs of quite recent introduction in most of its stations. Its range may be said roughly to include the Atlantic shores of the Old and New Worlds, and the Atlantic Islands. In Europe it is usually said to be introduced from America, while in other continents botanists usually derive it from Europe. Sir Joseph Hooker gives a full and lucid summary of its distribution in his *Flora Antarctica*, p. 241. He considers that it is originally from the New World because the most closely allied species is only found in the Chonos Archipelago. Whichever side it is from, it has almost certainly been originally spread by ships' ballast.

[**Sisymbrium Alliaria**, Scop. Native in woods in Britain, but very much more common along hedges about human habitations, though not persisting for long in such situations without an occasional disturbance of the ground.]

Sisymbrium altissimum, L. A South European weed which has been recorded from waste ground in Britain.

Sisymbrium austriacum, Jacq. Native of dry stony hills in Central Europe, becoming a cornfield weed there and in the neighbouring parts of the Continent. It has several times been recorded on waste ground in England.

Sisymbrium canescens, Nutt. A North American weed, once recorded on waste ground in England.

Sisymbrium Irio, L. The range of the species is from Europe to India, but nowhere within this area are its habitats given as obviously natural ones. Its abundance in Afghanistan and parts of Northern India suggests that this region may be its home. In Europe it is a weed of cultivation, of waste places, and of roadsides. It was abundant about London in the seventeenth century, and its appearance in the streets after the Great Fire led to its name of London Rocket. It did not appear for the first time after the fire, as some have supposed, for both Merrett and Ray expressly state that it was common in the suburbs of London during the years preceding 1667. That it was then a recent introduction is, however, suggested by the fact that Parkinson, writing in 1640, did not know it as an English plant.

Sisymbrium junceum, Bieb. A native of Eastern Europe and Western Asia which has once been recorded from Yorkshire as a waste ground alien.

Sisymbrium Loeselii, L. A native of Central Asia which has been noticed on waste ground in England on many occasions in recent years.

Sisymbrium pannonicum, Jacq. One of those way-side and waste ground weeds the native limits of which it is most difficult to determine. It is undoubtedly native in Eastern Europe and Central Asia, being very common, for instance, in the deserts about the Caspian Sea. In England its status is also undoubted, for it only occurs sporadically and temporarily as a waste ground introduction.

[**Sisymbrium officinale**, Scop. It is seldom recorded from natural habitats in England or the rest of Europe. There can be no doubt, however, of its indigenous nature on the banks of our larger rivers, and other naturally broken ground.]

Sisymbrium polyceratium, L. A plant of waste ground in Southern Europe and Western Asia which has occurred about Bury St. Edmunds and in a few other localities in Britain.

Sisymbrium orientale, L. Native of dry hills and rocky places in the Mediterranean region. It has become a common weed of cultivated and waste ground over a large part of Europe. In Britain, though of comparatively late introduction, it is occasionally very abundant about London and some of our larger towns. In a few localities it was certainly introduced with foreign grain.

Sisymbrium Sophia, L. Native in the Mediterranean area. According to written records it grows only in artificial localities in Northern Europe, though widely spread and common. In Britain its association with human habitations and operations is usually obvious.

Sisymbrium strictissimum, L. A native of woods in Central Europe which has been recorded from the banks of the Mersey near Stretford. It does not seem to be a plant of waste or cultivated ground. The record is difficult to explain. I have seen no specimens.

[**Sisymbrium Thaliana**, L. It is usually recorded from hedge banks, cultivated ground, walls, and similar

artificial localities in Britain, but it is also common as a native plant, especially on wood borders and stream banks.]

Tetragonolobus siliquosus, Roth. A pasture plant of Central and Southern Europe which has been found in cultivated ground in England on a few occasions.

Thlaspi arvense, L. A common and long-established cornfield annual in Britain and the rest of Europe, and in Western Asia. In the Altai region, Ledebour reported it as frequent in meadows, so that Central Asia may be looked upon as its home.

RESEDACEÆ.

Reseda alba, L. Native of Europe, and a weed of cultivated and waste places there as well as in other parts of the world. It is only as a weed of garden origin, or, more rarely, as a grain introduction, that it is known in Britain. It is, however, abundantly naturalised in one or two spots, especially on seashores.

[**Reseda lutea**, L. A native of dry downs and stony and sandy hillsides in the greater part of Europe. It grows in such situations, especially on calcareous soils, in England. It would, however, be difficult to find more than one or two instances in British Floras in which the plant is recorded from such natural surroundings. It is almost invariably located on "roadsides," "cultivated fields," and "waste ground." In fact, it is

probably much more common in such situations than as a native plant.]

Reseda odorata, L. A very common garden plant, and frequent as an escape from cultivation.

VIOLACEÆ.

[**Viola arvensis**, Murr. Almost universally recorded in Europe as a weed of cultivation, and very common in Britain in this condition. It has been observed growing naturally on the seashore in certain parts of Britain and elsewhere in Northern Europe, and in these natural habitats it may be native. In fact, in the absence of geographical evidence to the contrary, it must be allowed as being indigenous in these localities.]

Viola cornuta, L. A native of Pyrenean pastures which had been noticed as a garden escape in Britain.

[**Viola odorata**, L. Mr. H. C. Watson doubted the universality of this species as a native in England, and stated that he had only seen it as such in Lincoln and Surrey. It has doubtless established itself in numerous situations in hedges, near cottages, and has come to be considered as a wild plant there, but truly natural habitats also abound in England, Scotland, and Wales. In Ireland the authors of the *Cybele Hibernica* regard all the stations as doubtful.]

[**Viola tricolor**, L. Native on the seashores of our southern counties, as it is also in Germany, Normandy,

and the west of France. Mr. E. S. Marshall tells me that he has seen it also in open copses in Kent. It is, however, more frequent in Britain as a weed of cultivated ground or as a garden escape.

CARYOPHYLLACEÆ.

Arenaria balearica, L. Native of the Balearic Isles. It has long been cultivated in English gardens, and is occasionally found established on walls in their neighbourhood.

Arenaria montana, L. A native of Western France which has been recorded as an introduction in England, being probably of garden origin.

Cerastium arvense, L. Native in elevated pastures from Switzerland to South-East Russia. Further north and west it appears to be confined to roadsides and cultivated fields. In Britain it is fairly general in such situations. Such are the majority of book records, but particular attention should be paid by local botanists to the exact localities of this beautiful species. It occurs in the turf on the borders of downs, and old permanent pastures, but, in any of these situations which I have been able to examine, the species has always shown undoubted signs of being a survival of former agriculture.

Cerastium dichotomum, L. A weed of cultivation in the Mediterranean area. Communicated by Mr. Fraser Robinson among casuals from Hull.

Cucubalus baccifer, L. Native in woods and bushy places in Europe and Northern Asia. It is common in Central Europe, becomes rare in Northern France and Belgium, and, in England, has only been recorded from the Isle of Dogs in London, where it was doubtless introduced by some accident, and has long since disappeared.

[**Dianthus Armeria**, L. Native of dry wood borders in many English counties, as it is in Normandy and Belgium. The species has, however, long been cultivated in gardens, and is much more commonly recorded from waste places and hedge banks, where it is of garden origin.]

Dianthus barbatus, L. Indigenous in the mountain pastures of Southern Europe. This plant, the Sweet William of gardens, has occasionally been observed as established on old walls, where it had obviously escaped from culture.

[**Dianthus cæsius**, Sm. Native on Cheddar Cliffs—an outlying station, as its range almost terminates on the North Coast of the Continent. It is often grown in gardens, and is rather frequently recorded as growing spontaneously on walls in their neighbourhood.]

Dianthus Carthusianorum, L. An occasional escape from garden culture.

Dianthus caryophyllus, L. This favourite garden plant is indigenous no nearer than the rocky hills of Southern Europe. Further north, and in England, it is an occasional stray on old walls and in hedges near gardens.

***Dianthus plumarius*, L.** A native of stony and bushy hillsides, from Germany to Northern Asia. It is a frequent garden plant, and has often been recorded as a semi-naturalised escape on old walls.

***Gypsophila muralis*, L.** Native of dry stony places in Northern and Central Europe, and in Northern Asia. It has occurred once or twice in Britain as an escape from gardens.

***Gypsophila paniculata*, L.** Native of dry stony places from Central Europe to Siberia. Not infrequently recorded from waste ground in Britain. In some cases of garden origin, in others more or less obviously introduced with foreign grain. It is a cornfield weed in many parts of Europe.

***Gypsophila porrigens*, Boiss.** A cornfield weed of the East, several times recorded in connection with grain-sifting aliens in Britain.

***Gypsophila viscosa*, Murray.** A weed of the Orient communicated among casuals from Hull by Mr. Fraser Robinson.

***Holosteum umbellatum*, L.** Native of dry pastures from Europe to Western Asia, but more common over this area as a weed of cultivated fields. In England it has only been found on walls and roofs in Norfolk and Suffolk, and may be an introduction or a survival. It can hardly be called a native from such habitats alone. In the United States it has become abundantly naturalised in a few places.

Lychnis alba, Mill. One of those species under which the designation "native" in most of our Floras is followed by such unconvincing habitats as cornfields, hedgerows, &c. It is native in woods and on bushy hillsides in most of Europe, but in Normandy, Holland, and Belgium, as well as in Britain, its records are those of a weed supported by man.

Lychnis coronaria, Desv. A native of stony pastures in the mountains of Southern Europe, which has long been cultivated in gardens, and has been recorded as an escape in a few places in Britain. It has a similar origin in the United States.

Lychnis Githago, Scop. An almost universal cornfield weed, and common in most parts of Britain. Its origin is very doubtful, but, as Lindemann records it "in segetibus et in deserto" (*Fl. Chers.* 94), it may be native in South-East Europe.

Sagina Reuteri, Boiss. Mr. Towndrow, in the *Journal of Botany*, 1897, p. 409, summarises all that is known of this species as a British plant. It was found by him in three places in Herefordshire, in all cases growing in artificial habitats. In Britain, it cannot therefore be said to be known in a native state, but as it is most unlikely that it has been introduced from its only other known station in Central Spain, we must hope that its discovery in natural surroundings will soon add it to our indigenous list.

[**Saponaria officinalis**, L. This species is common in the greater part of Europe, but is more obviously native in the woods and on the grassy hillsides of the eastern

portion of its range. Its commonest habitat, on river and stream sides, is open to doubt in the case of a species so largely cultivated in gardens, and known to establish itself so readily in their vicinity. There is, however, this to be said in favour of its indigenous character in Britain: it was recorded as long ago as the time of Gerarde and Ray as a wild plant on stream banks, and it is known to grow in precisely similar localities in countries in which it is undoubtedly native. It may be provisionally admitted, therefore, as being a native of Britain.]

Saponaria Vaccaria, L. Native of oak woods in Asia Minor, and a very common cornfield weed in Eastern Europe and Western Asia. It is one of the most frequently introduced grain aliens in Britain; it occurs here also, as a weed of cultivated ground, possibly from the use of foreign seed.

Silene annulata, Fenzl. A native of Eastern Europe which has become established further west as a weed of cultivation, and has occurred, as such, in South-West England.

Silene Armeria, L. A native of rocky woods in Central and Southern Europe. It has been long in cultivation, and has frequently been recorded in Britain as an escape from gardens.

Silene catholica, Ait. Recorded by Mr. Wolsey in 1857 as growing among trees in a park near Bury St. Edmunds. It is a native of woods and bushy slopes over a limited area of Southern Europe, and it has been established in the Bois de Vincennes, near Paris, as

well as in the first-named locality. It has not been cultivated for ornament, and its introduction in these localities is difficult to explain.

[**Silene conica**, L. Native on the sea-coast of Britain and of the Continent of Europe. It is most common as a grain-sifting introduction and as a cornfield weed, its presence being due in both cases, no doubt, to its frequency in some parts of Europe on sandy cultivated ground.]

Silene conoidea, L. Once found as a casual introduction in Yorkshire. Introduced, doubtless, with seed from Southern Europe, where it is often a common cornfield weed.

Silene dichotoma, Ehrh. A common weed in the cultivated land of Central and South-East Europe. It has occurred in numerous localities in Britain, both as a weed in cultivated fields and also near mills and other places to which foreign seed is imported.

[**Silene Cucubalus**, Sm. Native on sea cliffs in Britain, and also perhaps in a few inland localities, but much more common as a weed of field borders, hedges, and roadsides.]

Silene Fabaria, Sibth. and Sm. A native of South-East Europe, cultivated in English gardens, and recorded as an escape in Cornwall.

Silene gallica, L. A species having a remarkably small native range compared with its wide distribution as a weed of cultivated ground. It occurs, independently

of cultivation, only in pastures in parts of the Mediterranean shores. As a weed of cultivated and waste places its distribution is world-wide. It is fairly common in Southern England, becoming rarer northwards. The form *S. quinquevulnera* is rare in Britain, and chiefly a grain introduction.

[**Silene italica**, Pers. Abundant on shingle and cliffs on the coast of Kent, and considered certainly native there by Messrs. Hanbury and Marshall. The range of the species as a native had been considered to be confined to the south and east of Europe, and the Kent localities as due to garden culture, but in view of the definite opinion of the learned authors of the recently published *Flora of Kent* its station there must be regarded as a survival of a once more extended range.]

Silene muscipula, L. A common cornfield weed of the Mediterranean region which has occurred a few times in England in connection with grain aliens.

Silene noctiflora, L. Native in bushy places in Bulgaria and probably other parts of South-Eastern Europe, also common as a cornfield weed from Western Europe to Persia. It is rather frequent in Britain, except in the extreme north.

[**Silene nutans**, L. Native on rocks and bushy ground from Western Europe, including England, to Siberia. It is more frequent, however, as a garden escape on old walls and waste ground.]

Silene pendula, L. A native of Southern Europe which has long been in cultivation, and has occurred as a garden escape in Britain.

Silene rubella, L. A native of dry pastures in the Mediterranean area, and also, particularly in the East, a cornfield weed. It has occurred in Britain among grain-sifting aliens.

[**Spargula arvensis**, L. Native on the shores of the Mediterranean Sea, and, more rarely so, in other parts of Europe, including Britain. In this country it is, however, much more common as a weed of sandy cultivated ground.]

[**Stellaria media**, Cyrill. Perhaps the commonest of all British weeds. It is so universal that, were it not for geological evidence of its existence prior to man in England, it would be impossible to decide on its claims as a native. It is now abundant in all places disturbed by man, as well as in naturally broken ground, such as surrounds the homes of our wild mammals. In the latter localities it may doubtless be considered a true native of the country.]

Tunica velutina, Fisch. and Mey. Once found as an introduced casual in Somerset.

PORTULACACEÆ.

Claytonia perfoliata, Donn. Native of stream-sides in North America. Certainly not known in this

country much before the beginning of the nineteenth century, and not recorded at all generally, as a spontaneous plant, before the middle of the century. It has increased very rapidly, by what means has not been satisfactorily explained, and it is now scattered all over England, even on heaths and sandy banks, far from cultivation. In sandy cultivated ground it is sometimes an abundant and troublesome weed.

Claytonia sibirica, L. A native of moist shady places in North America which has long been cultivated in British gardens. It frequently becomes spontaneous in places where it has been planted, and it has been recorded also from woods and parks in various parts of England and Scotland. The records are usually accompanied by notes as to the probability of garden origin. Its distant foreign range and recent appearance in this country must brand it in all its stations as an introduction.

Portulaca oleracea, L. This universal weed of warm countries has been found as a casual in England.

FRANKENIACEÆ.

Frankenia pulverulenta, L. A native of sandy shores in the Eastern Mediterranean area which was recorded by Hudson from the coast of Sussex. It is quite possible that it was introduced there with ballast.

TAMARIXACEÆ.

Tamarix gallica, L. Native of the Atlantic coast of Portugal and Southern France. It becomes rare further north, and ceases, except as an introduced shrub, in Normandy and Brittany. It seems to have been recognised long ago as a shrub suitable for the coast of South-West England, and its numerous wild-looking stations there are in every case ascribed to cultivation.

HYPERICACEÆ.

Hypericum barbatum, Jacq. Once recorded by Don from a hedge in Perthshire. It is a native of the mountains of South-East Europe, and was presumably not a native of Perthshire.

Hypericum calycinum, L. A native of shady woods in the Orient which has long been in cultivation all over Britain, and has become plentifully established here and there, in woods, hedges, and banks.

Hypericum elatum, Dryand. A native of wood-borders and bushy places in the Canary Islands which was introduced into British gardens before Aiton's time, and is now established, in a wild state, in many localities. The identification of this garden plant with Choisy's *Hypericum grandifolium* of the Canary Islands has been retarded by Aiton's erroneous statement that its origin was American.

Hypericum hircinum, L. A native of bushy places and stream-sides in the Mediterranean area, commonly cultivated in Britain, and naturalised in many situations.

MALVACEÆ.

Althæa hirsuta, L. Mr. C. E. Salmon has lucidly and impartially stated the case for the nativity of this species in the *Journal of Botany*, 1902, pp. 409-412. It is probably native in stony woods in Central and South-East Europe. In the northern countries of the Continent, and rarely in England, it is naturalised on roadsides and field-borders. In Britain it is most frequent as a grain introduction.

[**Althæa officinalis**, L. The Marsh Mallow. There is no reason to doubt its indigenous state on the western and south-eastern coasts of England, but inland it is probably always introduced. It has been in cultivation for many centuries, and all its numerous inland stations are attributable to garden culture.]

Hibiscus Trionum, L. Extends over the greater part of the north temperate zone as a weed of cultivated and waste places. Very common in cornfields in Eastern Europe, and thus imported to Britain with corn, and appearing sporadically where corn-siftings are thrown.

Kitaibelia vitifolia, Willd. A native of mountain woods in Hungary. It has been introduced into English gardens, and occasionally appears as a casual escape from them.

[**Lavatera arborea**, L. A native of rocks on the sea-coasts of Western and South-Western Europe which has never been doubted as indigenous in the southern part of its range, though in the north-west of France, in South-West England, and in Wales it certainly owes its presence, in the majority of localities, to gardens, it having been in cultivation for many centuries. Some of its stations, however, in Cornwall, Somerset, Carnarvon, and co. Dublin have been judged to be native ones, and in view of its nearly continuous range in Europe should be admitted as valid. Parkinson and Merrett, in the seventeenth century, both speak of it as a British plant.]

Lavatera cretica, L. A native of the Mediterranean area, occasionally found as a casual in England. Probably of garden origin.

Lavatera Olbia, L. Native of woods and bushy places in the Mediterranean region. It has been widely cultivated, and is occasionally found in a semi-wild state in England in places where it has escaped from gardens.

Lavatera punctata, All. A native of rocky ground in Southern Europe which has been recorded in a few localities in Britain. Its origin is apparently to be attributed to foreign grain-siftings, as it is a common weed of cultivated ground in some parts of its area.

Lavatera thuringiaca, L. A native of woods in Central Europe, said to have been found growing wild near Bedford. Presumably of garden origin.

Lavatera trimestris, L. A common cornfield weed in many parts of Europe, and occasionally found in England where foreign grain or seeds have been introduced.

Malva Alcea, L. A native of woods and bushy places as far north in Europe as Normandy and Belgium. There are also many records of the species as a wild British plant. Its geographical range is not against its presence as a native, but no recent authors include it as such, the former records being referred to the somewhat similar *Musk Mallow*. It has been recorded among grain-sifting aliens in a few places.

Malva borealis, Wallm. So much confusion has attended the reference of different authors to the small-flowered mallows of England that it is difficult to gather their individual status in different localities. The present species was, together with that now known as *M. neglecta*, Wallr., included by Linnæus under the name *M. rotundifolia*. Most English botanists mean by *M. rotundifolia* what Wallroth described as *M. neglecta*, though some follow Koch's *Synopsis Fl. Germanicæ*, ed. 3, in making Linnæus's *M. rotundifolia* synonymous with *M. borealis*. The latter is becoming more and more noticed as a waste ground plant in England, often being introduced with grain. It is also frequent in some other parts of Northern and Central Europe.

Malva nicæensis, All. Native of dry stony places in the Mediterranean region, and abundant in the cornfields

of some parts of South-East Europe. It is owing to the latter habitat that it has so often been recorded in connection with grain-siftings and in cultivated fields in Britain.

Malva parviflora, L. Native of dry, sandy, and rocky ground in the Mediterranean region, and a weed of cultivated ground in Central and Southern Europe. In its numerous recorded British localities it can usually be traced to grain introduction.

Malva rotundifolia, L. A common waste ground plant of England and the rest of Europe, but nowhere in this area recorded from natural habitats. Aitchison found it "everywhere among stones" in the Karrum valley in Afghanistan, and it is very probably one of the native plants of Central Asia which have advanced westwards with man.

Malva sylvestris, L. A native of bushy places and pastures in most parts of Europe, but becoming more and more confined to artificial habitats north-westwards in Europe, and in England not recorded in natural habitats, though common on roadsides and about houses.

Malva verticillata, L. It is probably a native of China where it is frequent also as a weed of cultivated and waste ground. In Europe it has long been cultivated, especially the variety *crispa*, for various purposes, and in England has been recorded once or twice as an escape from gardens.

Wissadula spicata, Presl. One of the introductions

noticed on the site of the 1862 Exhibition. A weed of tropical America.

TILIACEÆ.

[**Tilia cordata**, Mill. Native in woods in the Severn Valley and in Somerset, and probably in Lincolnshire (Ray recorded it there as abundant in woods, and Mr. Smith, of Grimsby, tells me that it is still known there) and in Normandy and Belgium. Its native range extends to Siberia. It is more frequent in England as a planted tree.]

[**Tilia platyphyllos**, Scop. Native of Central and Southern Europe, reaching as far north as the Ardennes. In Normandy and England it is very often planted, but in one spot, namely, Wyre Forest, it is believed to be native, and the geographical distribution is not sufficiently adverse to make it unsafe to accept the general opinion of local botanists on this point.]

Tilia tomentosa, Moench. A native of the Continent of Europe, much planted for ornament in England, and occasionally recorded as wild, though certainly not really indigenous in this country.

Tilia vulgaris, Hayne. A native of Europe from Scandinavia to Greece, and reaching neither Normandy, Belgium, nor England. Rather common as a planted tree in Britain.

LINACEÆ.

Linum grandiflorum, Desf. An Algerian annual, much cultivated in English gardens, and once found on the Thames bank near Kew Gardens by Mr. J. G. Baker.

Linum usitatissimum, L. A plant of very ancient cultivation, which is constantly to be seen as a casual in Britain, owing to the wide use of its seeds for various purposes. It is probably a native of North-East Africa.

ZYGOPHYLLACEÆ.

Tribulus terrestris, L. A native of the sandy shores of the Mediterranean Sea, and a common weed in many parts of Southern Europe. It is occasionally introduced into Britain with ballast.

GERANIACEÆ.

Erodium ciconium, Willd. A native of the dry downs of Spain and from there to Persia. It is a weed of cultivated ground and waste places in many parts of Europe. It has been recorded from Yorkshire as a probable garden escape, and from one or two other localities.

Erodium cyncorum, Nees. A native of Australia, noticed occasionally in Britain where Australian wool-combings have been thrown.

Erodium malachoides, Willd. Native in sandy places in the Mediterranean area, and a somewhat common weed of dry cultivated and waste ground in other parts of Europe. It has been recorded as a casual in Britain.

[**Erodium moschatum**, L'Hérit. Native in pastures, and on seaside dunes in several parts of Europe, including Normandy, South-West England, and Ireland. In the whole of this area, however, it is almost invariably recorded as a plant of roadsides and cultivated ground, and it is probably much more common in these than in truly native habitats.]

[**Geranium angulatum**, Curt. Once reported to Borrer from a wild locality in the Lake District, but the plant is now considered to have been *Geranium sylvaticum*.]

[**Geranium columbinum**, L. A native of dry woods in South-East England, as on the Continent. It is, however, much more common as a weed of waysides and cultivated fields.]

[**Geranium dissectum**, L. A common weed of cultivated and waste ground in Britain. It is also found as a native in certain localities in Southern England, such as the limestone downs in Somerset and the chalk downs in Kent. It is recorded as indigenous in pastures in Belgium and France.]

[**Geranium lucidum**, L. Though usually only recorded from hedges and walls, this species is truly native in England on seashores and among loose stones on hillsides.]

Geranium macrorrhizum, L. A native of the mountains of Southern Europe, which has been introduced into English gardens, and grows in a perfectly naturalised state on and near old walls in two places on Dartmoor in Devonshire.

[**Geranium molle**, L. A plant which has been most persistently restricted by the authors of local British Floras to cultivated and waste ground. It is common in such situations, but is also an undoubted native of dry pasture land.]

Geranium nodosum, L. A native of rocky and bushy places from the Pyrenees to Greece. It has long been in cultivation in England, and is recorded as naturalised in several localities.

Geranium phæum, L. Though absent as a native in Northern France and Northern Germany, this species reaches Belgium, where it occurs in woods and by streams. There is therefore no geographical reason why it should not be found as an indigenous British plant. In all its numerous British stations, however, local authorities now consider it naturalised, and of garden origin.

Geranium pusillum, Burm. f. Native in Belgian pastures, but not in Normandy or in Northern Germany.

In the latter, as in England, it is only recorded from hedges and from waste and cultivated ground.

Geranium pyrenaicum, Burm. f. A native of woods and meadows in the west of Europe, as far north as the centre of France. In Normandy and England it is only known on hedge-banks and in field-borders. It occupies the same position in our Flora as *Lamium album*, but, unlike most of our hedgerow weeds, it appears to be of fairly recent introduction, being unnoticed until the time of Hudson (1762). It is not impossible that garden culture may have assisted in its dispersal. † The species is claimed, it must be noticed, by several writers of British local Floras, but in no case is any natural habitat recorded to support the claim.

[**Geranium rotundifolium**, L. Native on rocks in a few localities; locally common on old walls and such-like artificial situations.]

Geranium striatum, L. A native of the woods of Southern Europe, naturalised in numerous localities in England, especially in the south-western counties, and always traceable to garden culture.

Impatiens biflora, Walt. Native of temperate North America; first recorded in England at Albury in Surrey, in the year 1822. It has since been traced along the banks of the Tillingbourne, from many miles above Albury to the junction of that stream with the river Wey, down the latter to the Thames, and as far down the Thames as London. Along the whole of this line it is now completely naturalised. It has since

been found in a similar state in many other parts of England, doubtless in each case originating from gardens.

[**Impatiens Noli-me-tangere**, L. Indicated as a native in Northern Wales and in Cumberland, as on the neighbouring parts of the Continent. In most of its localities in Britain it is treated by local botanists as an introduced plant.]

Impatiens parviflora, DC. A native of mountain woods in Siberia, which has become plentifully naturalised in various parts of Europe. It was not known in England before the year 1851, when it was discovered by Mr. Irvine at Battersea. It had made its appearance twenty years earlier in the Botanic Gardens of Geneva. The records, indeed, suggest horticultural trade as the cause of its distribution. When once introduced its spread has been remarkably rapid in numerous English localities.

Impatiens Roylei, Walp. Rather a favourite cottage-garden plant in some parts of England, which has appeared in a semi-naturalised state in several localities. It is a native of the Himalaya region. Mr. Britten has summarised its history as an English plant in *Journal of Botany*, 1899, p. 50.

Limnanthes Douglasii, R. Br. A native of North America which has been found once or twice as an escape from cultivation in Britain.

Oxalis corniculata, L. An abundant weed in most of the warmer parts of the world, being probably native

in tropical South America, where its nearest allies are indigenous. In Britain it is cultivated as an ornamental plant, often becoming a weed in gardens and their neighbourhood. In some of the warmer parts of England it is quite naturalised.

Oxalis violacea, L. A garden plant which has been found as a casual in Britain. A native of North America.

SAPINDACEÆ.

Acer platanoides, L. *The Norway Maple*. Frequently cultivated in gardens and parks, and occasionally recorded in Floras as an escape.

Acer pseudoplatanus, L. *The Sycamore*. Very generally planted, and often self-sown, so that it comes sometimes to be mistaken for a native tree.

Æsculus Hippocastanum, L. *The Horse Chestnut*. Of very general cultivation, and occasionally self-sown. It was probably introduced from Turkey in the seventeenth century.

Staphylea pinnata, L. Native of the forests of Central Europe, extending as far as Syria. Much cultivated in England from as early as the seventeenth century, and, from the first, showing a tendency to establish itself outside gardens. Ray, in 1670, saw it under such conditions "*non tamen ita copiosa ubi spontaneam assuere ausim.*"

LEGUMINOSÆ.

Astragalus hamosus, L. Native of rocky places in the Mediterranean region. It has been recorded as a ballast plant near Cardiff, where possibly it was of garden origin.

Cicer arietinum, L. Generally cultivated in the Orient, in which region De Candolle considered it to be native. It becomes a common cornfield weed in many parts of its range. It has been several times noticed in England in connection with grain-imported weeds.

Coronilla scorpioides, Koch. A native of grassy hills in the East, and an abundant weed of cultivated ground in that region and the Mediterranean area. In England it has frequently been recorded in connection with foreign grain introduction.

[**Coronilla varia**, L. Native of woods and dry limestone hills from Central and Southern Europe to Persia, reaching to Normandy, Belgium, and Northern Germany, and in one locality even to England. There seems no reason to doubt that the station recorded by Mr. Plumtree (*Journal of Botany*, 1897, p. 449), in a rough wood on the chalk in Kent, is a natural one. It is much more frequently recorded in England as a waste ground plant, in which state it is frequent over most of its range.]

Galega officinalis, L. A native of Southern Europe, occasionally recorded in Britain as an escape from garden culture.

Glycyrrhiza echinata, L. A native of Southern Europe, which has been found in England as a garden escape.

Glycyrrhiza glabra, L. *Liquorice*. Native in Southern Europe. It is sometimes grown as a crop in Britain, and has been recorded in a semi-wild state.

Hedysarum coronarium, L. The *French Honeysuckle* of British gardens. A native of the Mediterranean region, occasionally found in this country as an escape from cultivation.

Hippocrepis unisiliquosa, L. Native of dry stony and grassy places in the Mediterranean region, and a cornfield weed in the same area. It has twice been recorded in Britain in association with other imported cornfield weeds.

Laburnum vulgare, L. Native of woods in Southern Europe. It is frequently planted for ornament, and occasionally recorded from semi-wild localities such as hedges and copses near houses.

Lathyrus annuus, L. A Mediterranean cornfield weed which has occurred in England among corn-sifting aliens.

[**Lathyrus Aphaca**, L. Native of wood-borders and similar situations from Western Asia to Western Europe. In Britain it occurs here and there on gravelly banks, under conditions which make it possible to regard it as spontaneous and aboriginal, and, as it appears to be an undoubted native in Normandy and Belgium, there

is no geographical evidence against this view. It is much more common in this country in cultivated land, by roadsides and in waste ground.]

Lathyrus Cicera, L. An annual weed of Southern Europe, communicated by Mr. Fraser Robinson among casuals from Hull.

Lathyrus hirsutus, L. This species occurs in grassy and bushy places in Central and Southern Europe, but in France, Belgium, and England it is only recorded from cultivated fields, roads, &c., or so near them that it must be looked upon with suspicion.

Lathyrus latifolius, L. A native of the woods of Southern Europe, long cultivated in British gardens, and noticed as an escape from them in various localities.

Lathyrus Ochrus, DC. Recorded in *The Naturalist*, 1902, p. 315, by Dr. Arnold Lees, as an abundant colonist in a grain field in the West Riding of Yorkshire.

Lathyrus odoratus, L. The *Sweet Pea*. This favourite garden plant, which is a native of woods in Italy and Sicily, has often been recorded in Britain in a semi-wild condition.

Lathyrus sativus, L. A cultivated vetch, probably derived originally from Western Asia, which has been widely grown in Europe for fodder, and has become a cornfield weed in some countries. In Britain it has been recorded from cultivated fields and from localities where the siftings of foreign grain have been scattered.

Lathyrus sphæricus, Retz. Native in bushy places in some parts of the Mediterranean region, and rather a common cornfield weed there also. In Britain it has several times been recorded among grain-sifting aliens, as well as in scattered localities on waste ground.

Lathyrus tuberosus, L. A cornfield weed of Southern Europe and Western Asia which has become established as such in Essex. In some other parts of England, where it has been recorded, it might be of garden origin.

Lotus tetragonolobus, L. A cornfield weed of the Mediterranean region which has occurred in Britain as a corn introduction.

Lupinus angustifolius, L. A cornfield weed of the Mediterranean region. It has been found in Britain on waste ground where barley-siftings have been thrown.

Lupinus nootkatensis, Donn. A native of North America which, escaping from garden culture, has established itself in immense quantities on the banks of the Dee and Tay in Scotland. Many of the older records of *Lupinus perennis*, L., are referable to this species.

Medicago bonarotiana, Arc. A native of Italy. Found on waste ground near Hull Docks. Probably a grain introduction.

Medicago ciliaris, Willd. A weed in the Mediterranean region which has been recorded as a wool casual in Britain.

[**Medicago denticulata**, Willd. An undoubted native of sandy pastures near the sea in various parts of Europe, including Normandy and South-East England. In Britain, however, it is far more common as a weed in cultivated and waste places.]

Medicago laciniata, Mill. A cornfield weed of the Orient, which has occurred in connection with barley-sifting aliens, showing a tendency in one locality to establish itself in the turf.

Medicago littoralis, Rhode. A native of sea sands on the shores of the Mediterranean Sea. It has been recorded at Cardiff, to which port a large quantity of shipping comes in ballast, and was doubtless introduced in the ballast of a ship from the south of Europe.

[**Medicago maculata**, Willd. Native of dry pastures in various parts of Britain, but more often recorded from waste ground roadsides, &c., to which it has been carried by human aid in consequence of its clinging fruit.]

Medicago marina, L. A conspicuous feature of the vegetation of parts of the Mediterranean shores. It has been recorded at Cardiff, having been introduced, most probably, in ships' ballast.

[**Medicago minima**, L. A weed of dry sandy places in Europe and Western Asia. It has been recorded from several localities in the south-east of England, and may well be native there, as it is in Normandy. Elsewhere in Britain the records are all in connection with corn, wool, or ballast introductions.]

Medicago orbicularis, All. A rather common corn-field weed of Central Europe, Southern Europe, and the East, which has frequently been recorded in connection with other grain introductions in England. It is apparently a native of the grassy hills and seashores of the Mediterranean region.

Medicago rigidula, Desr. A weed of Southern Europe. Occasionally found as a casual in waste places in Britain.

Medicago sativa, L., Common, and doubtless wild, in Northern Africa and Western Asia. In Europe, more or less obviously, a relic of cultivation. In Britain it is commonly cultivated as a field crop, and persists for many years after sowing, sometimes remaining after other signs of cultivation have disappeared, and so looking like a native.

Medicago scutellata, Mill. Native of pastures in Southern Europe. A widely distributed cornfield weed of the Mediterranean region and the East, and several times recorded as a grain introduction in Britain.

Medicago Soleirolii, Duby. Native of the mountains of Southern Italy. It was recorded by Dr. Leitch among grain aliens at Silloth, in Cumberland, and it is so distinct that an error of determination is unlikely. It is difficult to understand the presence of such a species under these conditions, either there or in Southern France, where it is also said to be naturalised in one place.

Medicago sphærocarpa, Bert. A Mediterranean weed, recorded as a casual near Tunbridge.

Medicago tenoreana, Ser. A native of grassy places in the Mediterranean area which has been recorded among grain introductions in England.

Melilotus alba, Desv. Native in sandy meadows in the north temperate regions of the Old World, but not reaching England without the assistance of man. It ceases to be recorded, as a native, further north-west than Central France. In Normandy, as in Britain, it is frequent by roadsides, in waste ground, and in fields where it has once been cultivated. It shows a tendency to spread along railway lines. It has appeared as an introduction in nearly all temperate countries in which it is not native.

[**Melilotus altissima**, Thuill. Native in bushy places in various parts of Southern England, always on dry ground. Its native range extends as far as Central Europe, but, outside England, its habitat seems to be confined to river banks, wet meadows; never in dry places. This change of habitat at the limit of its range is curious. The plant is mentioned here because it is frequent also in artificial surroundings in Britain, and because it is hardly ever recorded in local Floras under natural conditions.]

Melilotus indica, All. Very common as a cornfield weed and waste ground plant in parts of the Mediterranean area. It has appeared, often abundantly, and most probably as a grain introduction, in various parts of the world. In England it has become quite common in waste ground in the neighbourhood of some of our larger towns.

Melilotus messanensis, All. Native of damp ground in the Mediterranean region, becoming a weed on cultivated ground there and in the East. It has occurred in England several times in connection with aliens imported with foreign corn.

Melilotus officinalis, Lam. Probably native in Europe, but not reaching England in that state. Throughout Britain it is fairly common as a waste ground introduction.

Melilotus sulcata, Desv. A weed of cultivation of the Mediterranean area. It has occurred in England as a wool introduction, and also in one or two localities where its presence might probably be traced to the importation of merchandise from the Mediterranean region.

[**Onobrychis viciæfolia**, Scop. The species is, and has long been, cultivated in various parts of Europe, especially on dry calcareous soil. It is frequently found in England as a relic of such cultivation, persisting for many years where once sown. In many southern counties it is recorded as growing wild, amid natural surroundings, on the chalk and limestone downs, and is regarded by local botanists as indigenous. It may, in some of these localities, be a survival of forgotten sainfoin cultivation, but in the absence of geographical evidence to the contrary—for it is nowhere of more native appearance—it may be treated as a British native.]

Ononis mitissima, L. Native of sea sands and stony places in the Mediterranean area and Western Asia. It has been recorded as a casual in Britain, introduced with foreign seed.

Ononis Natrix, L. Native of sandy shores in Southern Europe, and recorded at Cardiff as a ships' ballast introduction.

Ornithopus compressus, L. Very common on the shores and sandy pastures of some parts of the Mediterranean area, spreading also to cultivated fields as far north as Central Europe. In England it has been recorded a few times as a grain introduction.

[**Ornithopus ebracteatus**, Brot. Native of dry, rocky, and sandy places, from the Mediterranean area to the north of the Continent and the Scilly Islands. Elsewhere in England it has only been recorded as a very rare casual.]

Pisum sativum, L. A mere relic of cultivation in Britain. In the south of Europe it becomes a spontaneous cornfield weed. Its native country is not known.

Robinia Pseudacacia, L. A native of North America, much planted in England, and sometimes having a wild appearance.

Scorpiurus subvillosus, L. A very common weed of cultivated and waste ground in some parts of the Mediterranean area. It has been recorded several times as a wool casual in Britain.

Spartium junceum, L. Native of woods and bushy places in Central and Southern Europe, once recorded on the seashore at Hythe; doubtless an escape from cultivation.

Trifolium agrarium, L. Native of woods and bushy places in Southern Europe and Western Asia, sometimes cultivated as fodder, and throughout Europe, including England, an occasional weed in sown grass and clover fields.

Trifolium alexandrinum, L. Found by Mr. Montgomery in a meadow at Twickenham. It is a weed of cultivated fields of the East, and was probably introduced with Eastern grain.

Trifolium armenium, Willd. Native of alpine meadows in Greece and Asia Minor, becoming a cornfield weed in some parts of Europe and once found in connection with grain-sifting aliens in Britain.

Trifolium Cherleri, L. Native of hills in the Mediterranean area, especially common in Algeria. Once found in England in connection with Eastern barley aliens, apparently having held its ground for several years.

Trifolium hybridum, L. Native of damp meadows in Middle and Southern Europe and the East. Once much cultivated in England, now less so, but often found as a weed in other clover crops, along roadsides, and in other waste places.

Trifolium incarnatum, L. Native in Southern Europe, much cultivated as a fodder crop in England, and frequently observed as a stray from cultivation.

Trifolium lappaceum, L. Native in dry sandy fields in the Mediterranean region. Occasionally found in

waste places in Britain, probably the result of foreign grain introduction, as the species is a cornfield weed in some parts of Europe.

Trifolium michelianum, Savi. Native in meadows in the West Mediterranean area, but more widely spread as a cornfield weed. It has been found on waste ground in England, the result probably of the use of imported grain-siftings for feeding fowls.

Trifolium parviflorum, Ehrh. Native of grassy places in the Mediterranean region, and a weed of cultivated and waste places in Southern Europe. Once found in England in connection with grain-introduced aliens.

Trifolium resupinatum, L. Native of pastures in the Orient, and a cornfield weed of the Mediterranean area. A characteristic plant of grain alien colonies in Britain.

Trifolium spumosum, L. Native of grassy places in the East, and a rather common weed of cornfields in some parts of Southern Europe. Several times recorded in England where the siftings of foreign grain have been scattered.

Trifolium squarrosus, L. Native of damp meadows in the East. Once recorded in England, probably as a grain introduction.

Trifolium stellatum, L. Native of grassy hills in Western Asia, and very common as a cornfield and waste ground weed on the shores of the Mediterranean.

It was long known as a naturalised plant on the ballast in Shoreham Harbour, and has been found under similar conditions at Cardiff, and in waste ground in one or two other places in England. In one locality it was distinctly associated with grain aliens.

Trifolium supinum, Savi. Native of damp places in the East, and a cornfield weed in the same region. Found several times in England as a grain alien.

Trifolium tomentosum, L. Common in grassy places in the eastern portion of the Mediterranean area, extending to cultivated fields in Southern Europe. Once recorded in England, probably owing its presence to the importation of grain.

Trigonella arabica, Delile. An Oriental weed, once recorded in England among grain aliens.

Trigonella besseriana, Ser. Native of Central Europe, and common in some parts of Europe as a weed of cultivation. It has been recorded in several waste ground localities in England in connection with other aliens introduced with foreign grain.

Trigonella cærulea, Ser. Native on the banks of rivers in Central Europe. A weed of cultivation in that area, and further East. It has been found in England in several localities near cornmills and distilleries in which grain from the East is used.

Trigonella corniculata, L. Native in maritime pastures of Italy and Asia Minor, also a weed of cornfields in many parts of Europe. Once or twice noticed in

England on waste ground where siftings of foreign grain have been deposited.

Trigonella Foenum-græcum, L. De Candolle was of opinion that this species was not indigenous in Europe, but came from the East with the Aryans, and it was certainly cultivated by the ancient Greeks and Romans, and was, even before their time, cultivated in India. It is not claimed as a native of the Continent of Europe. In Somersetshire and one or two other counties in England it has been considered to be indigenous by local botanists, but in consideration of its recognised native geographical range, and also of its wide distribution as a weed, it will be necessary to reconsider the whole question before admitting it as a native of Britain.

Trigonella gladiata, Stev. Native of stony hills of the Mediterranean region. A weed of cultivated ground in the greater part of the same area. Occasionally recorded in connection with foreign grain siftings in England.

Trigonella hamosa, L. An abundant weed of cultivated ground in the east of the Mediterranean area, recorded several times in England as a grain alien, and once as introduced with fodder or cotton from Egypt.

Trigonella laciniata, L. Native of marshes in Syria and Egypt, and occurring as a weed of cultivated fields in the Eastern Mediterranean area. There is a specimen in the British Museum Herbarium from Mitcham in Surrey. The species may have been introduced with imported barley from the East.

Trigonella maritima, Delile. An annual weed of the Mediterranean shores which was found among grain introductions at Hull.

Trigonella monspeliaca, L. Very common on dry sandy hills and in cultivated ground in parts of the Mediterranean area and the East. Noticed once or twice where screenings of imported grain have been thrown.

Trigonella Noëana, Boiss. Native in pastures, and a weed in cultivated fields in Asia Minor and Persia. Once recorded in England as introduced with barley from the East.

Trigonella polycerata, Led. Native of sandy pastures in Spain and other parts of the Mediterranean area, becoming a weed of cornfields, especially towards the East. Noticed a few times in connection with grain aliens in Britain.

Vicia Bivonea, Rafin. A native of Southern Europe, and a cornfield weed in the same region. One of the Wandsworth aliens, and therefore probably introduced with grain.

Vicia Ervilia, Willd. A common cornfield weed of the Mediterranean region which has occurred very rarely in cultivated land in England.

Vicia Faba, L. Often found as a stray relic of the cultivation of the Bean.

Vicia gracilis, Loisel. Native of bushy places in Central and Southern Europe, becoming dependent on

cultivation, or at any rate on the operations of man, in the northern part of the Continent and in England, where it occurs in cultivated fields, hedge-banks, roadsides, and such-like situations.

Vicia grandiflora, Scop. Native of grassy hills in Southern Europe, and a weed throughout the Mediterranean region in arable land. Communicated by Mr. Fraser Robinson among casuals from Hull.

[**Vicia hirsuta**, S. F. Gray. One of those abundant weeds which, though really native, is rarely recorded from native habitats. It is truly indigenous in meadows and woods, at least in Southern England, but it would be hard to find a mention of it in these situations in our local Floras.]

Vicia hybrida, L. A rather common cornfield weed in the East of Europe which has occurred in waste and cultivated ground in England, doubtless in consequence of introduction with foreign seed.

[**Vicia lutea**, L. Native in dry stony ground from the East to Britain, and a somewhat common cornfield weed in the greater part of Europe. In England it is apparently native on shingles on the Southern Coast, but is much more frequent in connection with the siftings of imported grain.]

Vicia monanthos, Desf. Cultivated as fodder in some parts of Southern Europe. It has occurred in Britain in vetch fields, to which it was doubtless imported as an impurity in foreign seed.

Vicia narbonensis, L. A rather common weed of cultivated ground in the Mediterranean area. It has been recorded on several occasions in connection with grain-sifting aliens in Britain.

Vicia pannonica, Crantz. Native of meadows and bushy places in Central and Southern Europe, and a weed of cultivation in many parts of the same area. In England it has occurred as a weed of cultivated and waste ground, the result, certainly in one case, probably in all, of the importation of seed and grain.

Vicia peregrina, L. A weed of cultivation of the Mediterranean area, found among grain-sifting aliens at Silloth in Cumberland and in other places.

Vicia Pseudo-cracca, Bertol. Native of bushy places in the east of Europe. Once recorded on ballast in Britain.

Vicia sativa, L. Anciently cultivated in Europe. In Britain not uncommon in cultivated and waste ground, but always a relic of vetch cultivation.

Vicia tenuifolia, Roth. Native of bushy places from Central Europe to the Orient, also a weed of cultivated fields in Europe. It has been recorded once in Britain among a colony of grain-sifting aliens.

Vicia villosa, Roth. Native of rocky ground and bushy places in Central and Southern Europe, and common in cultivated ground in many parts of the Continent. Several times recorded in England in connection with siftings of imported wheat.

ROSACEÆ.

Acæna Sanguisorbæ, Vahl. A native of New Zealand, which was found by Mr. W. R. Martin on Heytor Down, Dartmoor, Devonshire. How it came to this bleak moor is exceedingly difficult to determine, but it is almost certain that it was carried thither by reason of its clinging seeds, which would be carried on the fur of animals or the clothes of human beings.

Amelanchier canadensis, Medic. A native of dry open woods in temperate North America. It has been largely planted in various parts of England, and occasionally, as for instance in the Hurt Wood in Surrey, it has all the appearance of being an indigenous tree among birches, oaks, and other native species. It apparently, however, never ripens fruit.

Aremonia agrimonioides, Neck. Native in woods in Italy, the Balkan Peninsula, and Asia Minor. First recorded in Britain from Scone Wood, near Perth, where it was plentiful, and believed by Sim, the discoverer, to be native. Apart, however, from the very slight probability of the plant occurring naturally so far from its main range, it was clearly shown that this station, and others in Scotland and the North of England, were of garden origin.

Cotoneaster integerrima, Medic. A native of most of the mountainous districts of Europe, known in one spot in Britain, namely, on Great Ormes Head. The fact that it has long been cultivated makes it probable that in this isolated station it was originally bird-sown.

Cotoneaster microphylla, Wall. A native of the Himalayan region. Cultivated in English gardens, and said to be naturalised on Brean Down in Somerset.

Cratægus coccinea, L. A native of North America, imported and largely planted in Britain, and semi-naturalised in woods in one or two places.

Cratægus pyracantha, L. A native of Southern Europe. Much cultivated in Britain, and occasionally noticed in a semi-wild state.

Fragaria chiloensis, Duchesne. A native of Europe, reaching northward to Normandy and Belgium, but apparently nowhere acknowledged as indigenous in Britain. It was, however, once much cultivated, and escapes have frequently been recorded from different parts of the country.

Mespilus germanica, L. Native of woods in Central and Southern Europe. In England it was very generally cultivated during the seventeenth and eighteenth centuries, and has survived in many parts of Southern England in hedges and woods, where it had been originally planted. It does not appear ever to have been observed as spontaneous, or in a locality entirely free from suspicion, and should not therefore, without further investigation, be admitted into our native list.

Potentilla collina, Wib. A native of Southern Europe which has been recorded once in England amongst other casuals, and was probably an outcast from some garden.

[**Potentilla fruticosa**, L. Native, though very rarely, both in Ireland and England. More often recorded as an alien due to garden cultivation.]

Potentilla hirta, L. Native of stony places of Southern Europe ; rather frequently recorded as a garden outcast in England.

Potentilla inclinata, Vill. Native of stony hills from Eastern France through Southern Russia to Western Asia. It has been recorded several times as a garden outcast in England.

Potentilla intermedia, L. A native of woods in Central Europe, recorded once or twice presumably as an outcast from gardens.

Potentilla norvegica, L. Native of wet sandy places in Europe, much cultivated in English gardens, and often noticed as an escape from cultivation. In some localities it is even said to be thoroughly established.

Potentilla opaca, L. A native of the mountains from Northern and Central Europe to the Altai region. It was recorded by Don as a wild Scotch plant, but the author of the *Students' Flora* states that Don's specimens are referable to *Potentilla intermedia*. In either case it would not be safe to accept the record as a native one, as Don's discoveries have been questioned by so many reliable botanists of subsequent times. Their assumption is that some of his most remarkable discoveries were introductions (whether intentional or not need not here be discussed), and so they will find a place in this list.

Potentilla recta, L. Native of open woods of Central and Southern Europe. Not infrequent as a garden escape.

Potentilla supina, L. Native of damp sandy places in Central and Southern Europe, which has been recorded in waste places in Britain. Being an annual plant, it may perhaps have been introduced as a weed among grain.

Potentilla tridentata, Soland. A native of the mountains of North America. Recorded by Don as a native of Scotland. Possibly an introduction.

Poterium polygamum, W. and K. Native of dry grassy places from Central Europe to the East. It has been sown as a fodder crop in England, and is fairly frequent as a relic of such cultivation, and also as a weed among other crops.

Prunus domestica. L. A native from the Caucasus region to Persia. Very early cultivated in Europe. As a relic of cultivation it is fairly common all over England, and even in some places has the appearance of being wild in woods.

Prunus insititia, L. Wild in Southern Europe and Northern Africa. *Bullace* has been much planted, and is now rather common in England as a naturalised plant in hedges and woods.

Prunus Laurocerasus, L. Native in Eastern Europe and Western Asia. Much cultivated in England, and occasionally seen as an escape from cultivation.

Pyrus communis, L. Cultivated from very ancient times in England, and frequently occurring as an escape from cultivation.

Rosa alba, L. A native of the East which has occurred as a garden escape in England.

Rosa alpina, L. A native of the mountains of Central and Southern Europe which has occurred as an alien near gardens in England.

Rosa cinnamomea, L. Native of the Alps of Northern Europe and Siberia, and occasionally found in hedges and woods in England in the neighbourhood of houses.

Rosa gallica, L. A native of dry woods on the Continent of Europe. Cultivated in England, and once or twice observed as an escape from gardens.

Rosa lucida, Ehrh. A native of North America. Cultivated in English gardens, and recorded occasionally as an escape.

Rosa pomifera, Herrm. A native of the Orient. Much cultivated in England, and occasionally observed in hedges and woods near gardens.

Rosa sempervirens, L. Native of woods in the Mediterranean region. Cultivated in England, and occasionally straying into semi-wild surroundings.

Rubus laciniatus, Willd. A cultivated blackberry, recorded once or twice near gardens.

Rubus spectabilis, Pursh. A native of North America, recently introduced into cultivation in England, and noticed once or twice as an escape from cultivation.

Spiræa chamædrifolia, L. Native of mountain woods from the northern part of the European Continent to Siberia. It has been recorded as a garden escape in England.

Spiræa hypericifolia, L. Native of rocky mountains in Russia and temperate Asia. It is cultivated in England, and has been noticed in a semi-wild condition near gardens.

Spiræa salicifolia, L. A native of wet river banks, and bushy places in Southern Europe and the greater part of the North Temperate Zone, but further north than Central France it is only known in a naturalised state. In this condition it occurs not infrequently in Normandy, Belgium, and England. In every case it doubtless originated from garden culture.

Spiræa tomentosa, L. A native of bushy places in North America. Recorded by Mr. Lees as apparently thoroughly established in North Lincolnshire.

SAXIFRAGACEÆ.

Escallonia rubra, Pers. Native of Chili. A garden escape on cliffs in Northern Ireland.

Mitella diphylla, L. A native of woods in North America, recorded as a garden escape in England.

[**Ribes alpinum**, L. Doubtless native in Northern England, but in its numerous other Scotch and English stations an escape from garden culture.]

[**Ribes Grossularia**, L. An undoubted native of most of Europe, reaching the northern shores of the Continent. It is doubtless also indigenous in England, but the extensive cultivation of the gooseberry and the readiness with which it can be bird-sown has thrown doubt upon it in many localities. There is nothing in the geographical range of the species to make its nativity improbable, and it is common in damp woods in perfectly natural surroundings in England, just as it is throughout the rest of its range.]

[**Ribes nigrum**, L. This species grows in Britain and the greater part of the rest of Europe under exactly the same circumstances as *Ribes Grossularia*, and should probably be admitted as a native for similar reasons. It seems inadmissible to suppose that a species growing here amid natural surroundings, independently of cultivation, and native on the adjacent parts of the Continent, is not a native. It appears strange that British botanists, with a few exceptions, have excluded the species from the British Flora.]

[**Ribes rubrum**, L. A native of England and the rest of Northern Europe, growing in similar situations to the last two, and for the same reasons admitted as indigenous. It has been frequently classed as an introduction by local botanists, but less often so than the last-named species.]

[**Saxifraga Geum**, L. Native of Western Europe,

including Ireland. In England only recorded as a garden escape.]

Saxifraga rotundifolia, L. A native of the mountains of Southern Europe, much cultivated in England, and occasionally noticed as a garden stray.

Saxifraga Sibthorpii, Boiss. Native of⁴ Greece. Mr. William Whitwell informs me that this species has been sent to him from Tunbridge Wells, where it was a garden weed.

[**Saxifraga tridactylites**, L. This is one of the species which is almost invariably relegated in local Floras to artificial habitats such as walls. If these were the only situations in which it was known in England it should not be claimed as an undoubted native. As a matter of fact, however, it is fairly common on dry stony hills, though perhaps more often seen on walls than anywhere else.]

CRASSULACEÆ.

Cotyledon hispanica, L. A native of the Western Mediterranean area. There is a specimen in the British Museum Herbarium, collected near Oban, and presumably a garden escape.

[**Cotyledon lusitanica**, Lam. Native of Southern Europe. Recorded by Hudson from Somerset and Yorkshire. This species must also be looked upon as alien in the absence of confirmatory records.]

[**Cotyledon Umbilicus**, L. A species abundantly naturalised on walls and in hedge-banks in the west of Britain, and seldom, if ever, recorded from any more natural habitat. In Devonshire, however, on the borders of Dartmoor, I have frequently seen the species growing on rocks on the open moor, and it is doubtless native in such situations there and elsewhere.]

[**Sedum album**, L. Native throughout the whole of the Continent of Europe, up to the northern coast, but only known as an indigenous plant in England in one or two localities, and even there doubted by some botanists. There seems to be little cause, however, to doubt its native state in such situations as are described by Mr. Murray in the Mendip Hills of Somerset. As an escaped garden plant naturalised on walls and roofs it is frequent throughout England.]

Sedum Cepæa, L. Native of stony woods in Central and Southern Europe. Once recorded as a garden escape in England.

Sedum dasyphyllum, L. A native of Southern Europe, extending as an introduced plant to North-West Europe, including Britain, where it is not uncommon on old walls.

Sedum hybridum, L. A native of Western Asia, long cultivated in gardens in England, and once or twice recorded as a naturalised plant on walls.

Sedum sexangulare, L. Native on rocks in the west of Europe, reaching as far as Normandy and Belgium. It has been recorded in several localities in England

on old walls, and is certainly a naturalised plant. It is quite likely that further investigation may reveal it in natural surroundings, in which case there would be nothing in its geographical distribution to prevent it from being reckoned as a native of Britain.

Sedum stellatum, L. Native of rocky places in Southern Europe. Cultivated in gardens, and occasionally occurring on walls and banks in their neighbourhood.

Sempervivum tectorum, L. Apparently native on rocks in Southern Europe. Known from ancient times as an introduction in the northern part of the Continent and in England, growing on roofs and walls.

LYTHRACEÆ.

Lythrum Græfferi, Ten. Very common in wet ground in some parts of the Mediterranean area. It has been recorded several times from waste ground in England, but as yet no definite clue as to its origin has been afforded.

[**Lythrum Hyssopifolia**, L. Native in wet places throughout Europe, including probably some parts of England. It is, however, a species which has been known to spread very rapidly in waste places far from its native range, as for instance in Australia and New Zealand, where it has become locally abundant. It may perhaps belong to the numerous class of grain casuals, for it occurs in cultivated fields in the east

of Europe. At all events it has occurred in connection with grain weeds in England, and is much more common as a waste ground casual than in natural surroundings.]

ONAGRACEÆ.

Clarkia pulchella, Pursh. Native in stony ground in Western North America. Much cultivated in British gardens, and occasionally found as an escape in their neighbourhood.

Enothera biennis, L. Common in North America on river banks, lake margins, &c. In England and many other parts of Europe it is locally abundant as a naturalised plant, and is apparently perfectly established in several places where the environments suit it, such as seashores and sand-hills. It has long been a favourite garden plant, and its presence is probably entirely due to this fact.

Enothera odorata, Jacq. Native of the stony pastures of temperate South America. Cultivated in gardens in England, and found on several occasions in a semi-naturalised condition near villages and towns.

Enothera pumila, L. Native of North America. A plant sometimes cultivated, and readily establishing itself as a weed in and near gardens.

Enothera purpurea, Curt. Native of North America. There is a specimen in the British Museum Herbarium, recorded as a garden escape.

Oenothera rosea, Soland. A native of marshes and stream banks in Mexico and temperate South America. It has been recorded twice in England, once at Kelso in Roxburgh, and I have seen it growing plentifully in a wood border, and in a neighbouring potato-field at Holnicote in Somersetshire. The only possible explanation of its occurrence there would be its cultivation in some neighbouring cottage garden.

Oenothera tenella, Cav. A native of Chile. Once recorded by Dr. Leitch at Silloth in Cumberland, where it was presumably a garden outcast.

LOASACEÆ.

Mentzelia albicaulis, Dougl. A native of arid sandy plains in Western North America. Once recorded in England, probably as a garden outcast.

UMBELLIFERÆ.

Ægopodium Podagraria, L. Native in woods and meadows in Eastern Europe, and possibly further than this in a north-westerly direction. In England it is common, but its habitat is apparently always near houses. Where it is abundant in a village it can usually be traced for a short distance along the neighbouring hedges and field-borders, but careful search has invariably failed to satisfy the writer that it occupies quite natural habitats in England. If Cockayne is

correct in his identification of this species with the Goatweed of Saxon herbalists, it was extensively used in England from the tenth to the seventeenth century. This may be a clue to its introduction, but it is no proof that it grew in England, either as a native or under cultivation, because herbs of obviously foreign origin are frequently mentioned by the same writers.

Æthusa Cynapium, L. Not known in a wild state. It accompanies cultivation everywhere in England and Wales, and, to a less extent, in Scotland. It extends also over the greater part of Europe. *Æthusa cynapioides*, which differs in a slight degree only, and is indeed usually regarded as a variety of the above, is a native of the woods and bushy places of South-East Europe; that is, towards the eastern end of the area occupied by the type. In fact, perhaps it would be historically more correct to look upon *Æthusa Cynapium* as a variety of *Æthusa cynapioides*, originally produced by the favourable conditions attending the appearance of agriculture in Southern Europe and carried westwards with civilisation.

Ammi majus, L. A native of the Mediterranean area. It has been known as an imported medicinal plant from Saxon times, but its first record as a weed in England dates from the early part of last century. It has been found sporadically throughout the greater part of the country, owing its introduction, in most of the ascertained cases, to the importation of foreign grain.

Ammi Visnaga, Lam. A native of sandy ground in the Eastern Mediterranean region which has been found once or twice as a grain importation.

Anthriscus Cerefolium, Hoffm. Native in bushy places in South-East Europe and Persia. Long cultivated in England under the name of Chervil, and now surviving in many places in a semi-naturalised state near gardens, or where gardens have been.

Anthriscus vulgaris, Bernh. Native in Croatia in shady woods and bushy places. In the rest of Europe and Western Asia it is recorded only from roadsides, hedges, and waste ground, where its presence is doubtless due to its ready dissemination by man and domestic animals, to whom its fruit clings by means of hooked hairs.

Archangelica officinalis, Hoffm. A native of wet woods and river banks from Scandinavia to Central Asia. It has long been cultivated, and is known in a naturalised state in England and other countries where it is not native.

Astrantia major, L. Native of mountain pastures in Central and Southern Europe. Cultivated in English gardens, and occasionally found as an escape.

Astrantia minor, L. Indigenous in Central Europe; occasionally recorded as a garden escape in England.

Bifora radians, Bieb. A cornfield weed of Southern Europe which has been recorded as a grain introduction in England.

Bifora testiculata, Roth. A weed of cultivated ground in the Mediterranean region, introduced into Britain with imported grain, and occasionally observed where grain-siftings have been thrown.

Bowlesia tenera, Spreng. A native of South America observed at Silloth in Cumberland on ballast discharged from ships from South America.

[**Bupleurum aristatum**, Bartl. Native of the Continent of Europe up to the north coast of France, and also of the Channel Islands, Devon, and Sussex. It is also a cornfield weed in the Mediterranean region, and has occasionally been found as a grain-imported alien in Britain.]

Bupleurum falcatum, L. Native in the centre and South of Europe, on dry hills and stony ground. Further north its localities become more and more subject to suspicion. In England it is a rare weed, found along roadsides and field-borders.

Bupleurum fruticosum, L. A native of bushy places in Southern Europe, grown in gardens in England, from which it is occasionally observed as an escape.

Bupleurum Odontites, L. Native of dry hills in Southern Europe and a weed of cultivated ground in the Mediterranean region. Has been recorded in Britain as a grain alien.

Bupleurum protractum, Hoffm. and Link. A common cornfield weed of the Mediterranean region, occurring here and there in England in connection with introduced grain.

Bupleurum rotundifolium, L. Native in rough stony ground in South-East Europe and Western Asia. Also common there and in the rest of Europe, including England, as a cornfield weed.

Carum Bulbocastanum, Koch. A native of meadows, grassy places, and woods in the south of Europe, becoming restricted to cultivated ground further north, and locally present in England under these conditions.

[**Carum Carvi**, L. Native in the meadows of Northern and Central Europe, reaching Holland, Scandinavia, and Britain. It is of very general occurrence in Britain, as a casual in waste places, in consequence of the extensive use of its seeds for culinary purposes. It has been recorded also as occurring plentifully in pastures in Herefordshire and Bedfordshire; in such situations there is nothing to throw doubt on its natural status. It may be mentioned in this connection, though hardly as corroboration, that its seeds have been identified by Mr. Reid as occurring in interglacial deposits in Britain.]

Carum Petroselinum, Benth. and Hook. f. Native in dry hills in Italy and a few adjacent countries. Its general cultivation has led to its frequent occurrence in a subsontaneous state in other parts of the world. In Britain it is frequently noticed in connection with garden rubbish, and occasionally appears as an established plant on cliffs and other natural habitats upon which garden rubbish has been thrown.

Carum segetum, Benth. and Hook. f. This species is limited to England, Guernsey, France, and Portugal, and is, in all, apparently confined to field-borders, cornfields, roadsides, and hedge-banks. There seems no reason why it should not grow on bushy hillsides, similar in character to its artificial habitats, but it has not been expressly recorded from any quite natural situations in Floras.

[**Caucalis Anthriscus**, Huds. An undoubted native of wood-borders and bushy hillsides, but, from its remarkable suitability for artificial dissemination along roads and paths, perhaps more common in connection with human operations than in its natural habitats.]

Caucalis arvensis, Huds. A native of bushy hillsides in South-East Europe, and a weed of cultivated fields in the remainder of the Continent and in England.

Caucalis daucoides, L. Native of the dry hills of Persia, and perhaps other neighbouring countries. Now abundant in many parts of Central and Southern Europe as a cornfield weed. In England it occurs rarely as a weed of cultivated ground, and it is not uncommon in colonies of grain-sifting aliens.

Caucalis latifolia, L. Widely distributed in the cornfields of the Mediterranean region. A rare cornfield weed in a few of the southern counties of England and Wales. Occasionally found in connection with imported grain.

Caucalis leptophylla, L. Native in dry places from the Mediterranean eastwards to Persia and Afghanistan. A cornfield weed in South-East Europe, and occasionally noticed in England as introduced with imported grain.

[**Caucalis nodosa**, L. Native in Britain in dry broken ground on hillsides, but far more common along roadsides and similar places, to which it is introduced by means of its clinging fruits through the agency of men and domesticated animals. It is in the latter situations that it is almost invariably recorded in local Floras.]

Chærophyllum aromaticum, L. A native of meadows and woods in the mountainous districts of Central and Southern Europe. It was recorded as a native of Scotland by Don, but, in the absence of confirmatory records, the weight of geographical evidence makes it necessary to regard it in Don's station as an introduction or as a wrong determination.

Chærophyllum aureum, L. A native of mountain pastures in Central and Southern Europe. Recorded from Scotland by Don, and to be judged on the same lines as *Chærophyllum aromaticum*.

[**Conium maculatum**, L. Native in Britain in open woods, but much more commonly recorded along hedgebanks, in waste places, and other artificial habitats. In the rest of Europe, as in Britain, it is on rare occasions recorded from natural habitats, but, just as in Britain it is much more common as a native than would be supposed from these scattered records, so also in the rest of Europe it is probably a fairly common native, but generally overlooked in its natural habitats, being so much more commonly seen in artificial ones.]

Coriandrum sativum, L. A weed of cultivated fields in Southern Europe and the East, and occasionally reported among grain introductions in different parts of England. In a few instances its occurrence seems to be due to cultivation.

Daucus grandiflorus, Scop. Native of Southern Europe. A common weed of arable land in some parts of Europe. Mentioned by Mr. Davey as a casual in Cornwall. Probably introduced with grain.

Echinophora capitata, Desf. Native of seashores in the Mediterranean area. Once recorded as a wool-refuse casual in England. Its adhesive fruits render it particularly likely to be carried in wool.

Echinophora spinosa, L. A native of maritime sands from Western France to Western Asia. It does not reach the north of Europe as a native, and Ray's record of the species from the coasts of Lancashire and Kent probably refers to plants introduced with ships' ballast.

Falcaria vulgaris, Bernh. A native of the south-east of Europe, becoming a weed of cultivated places and roadsides in that region and beyond it from England to Persia.

Heracleum giganteum, Fisch. A native of shady spots in the more rocky parts of the Caucasus. Widely cultivated in gardens in Britain. It has been noticed in a semi-wild state near places where it has been cultivated.

Levisticum officinale, Koch. A native of the mountains of Southern and Eastern Europe. A cultivated plant which has been found casually in Britain.

Myrrhis odorata, Scop. A species having all the appearance of an abundant native in some parts of Central England. There is, however, considerable reason to regard it as a naturalised introduction. It is not mentioned by the earlier botanists; it is not known, except as an introduction, in Northern France or Belgium (though it is native in Scandinavia and Germany). It has been cultivated in former times for its medicinal

properties, and this may account for its original introduction. Its native habitat is mountain pastures in South, Central, and North-East Europe.

Peucedanum graveolens, Benth. and Hook. f. Probably a native of Persia, where Haussknecht found it in sandy plains. A weed in cornfields in Eastern Europe, whence it has occasionally been introduced into England by means of grain importation.

Peucedanum Ostruthium, Koch. Native along mountain streams in Central and Southern Europe. It is absent as a native in Normandy and Belgium. The species is well established in a few places in Northern England, but its indigenous state must be doubted for similar reasons to those brought forward in the case of *Myrrhis odorata*. Like it, this plant has been used medicinally.

[**Peucedanum sativum**, Benth. and Hook. f. Native of chalk and limestone downs in Southern England, but much more common as a relic of cultivation. It is in fact seldom recorded in local Floras, even in the southern counties, as growing in natural surroundings.]

Scandix australis, L. A native of the shadeless grassy hills of the Mediterranean region. It is a common cornfield weed in some parts of Europe, and occurs occasionally in England as a grain introduction.

Scandix Pecten-veneris, L. Native of bushy places in some parts of Eastern Europe. An abundant weed of cornfields throughout Europe, including England.

Scandix pinnatifida, Vent. One of the numerous grain aliens noticed by Mrs. Baker at Oulton Broad, Norfolk.

[**Selinum Carvifolia**, L. There can be no doubt that this is a true native of its few stations in Eastern England. It was cautiously designated a denizen by Mr. Lees (on its first discovery) in his admirable summary of its history (*Journal of Botany*, 1882, p. 129), but in the absence of any geographical evidence to the contrary, and considering that it has been discovered in other unsuspected localities, no further doubt need now exist as to its native status.]

Siler trilobum, Crantz. In its one known station in England near Cambridge it is certainly an introduction, probably an example of intentional planting or sowing by some local botanist. The settlement of its status forms an instructive contrast to that of the *Selinum Carvifolia*, L. Both species are growing in their usual native surroundings, and both well established, but the *Selinum* is supported by geographical evidence. The *Siler* falls under strong suspicion in consequence of all want of support in that direction. Its geographical range on the Continent completely ends in Mid-Europe, and, so far as can be ascertained, no other station for the species is known further north-east than Metz.

Sison Amomum, L. Native in bushy and grassy places in the Mediterranean region. In Normandy, Belgium, and Britain only recorded, so far as the writer has seen, from roadsides, field-borders, and such-like artificial situations. Careful investigation, moreover, in

the field has only confirmed the impression that the plant is dependent on man at the present time in Northern Europe.

Smyrniium Olusatrum, L. Apparently native in some parts of the Mediterranean area. In England locally frequent, especially near the sea, but nearly always more or less associated with human habitations. In most of its stations, though thoroughly naturalised, its position shows it to be a relic of cultivation. It is seldom cultivated now, but in the fifteenth century it was one of the commonest *Umbelliferæ* in British gardens. Celery has largely taken its place. It is apparently not known, except as an obviously introduced plant, in the neighbouring parts of the Continent, and the few British stations in which it appears to be indigenous should not perhaps be taken as sufficient warrant for admitting it to our native list, adding as they would so isolated an outlier to its native range.

Tordylium ægyptiacum, Lam. A native of cultivated fields in the Eastern Mediterranean area. Once observed in connection with imported grain in England.

Tordylium maximum, L. A native of bushy places in Central and Southern Europe. Also widely spread as a weed of cultivation. In England it was once plentiful in the neighbourhood of Oxford, about London, and in one or two other isolated spots. It may have been introduced in all of these cases with agricultural seed or with grain.

CORNACEÆ.

Cornus stolonifera, Michx. Native in wet places in the Northern States of North America, much grown for ornament in Britain, readily establishing itself, and several times observed as an escape from cultivation.

CAPRIFOLIACEÆ.

Diervilla trifida, Moench. Native of rocky ground in the Northern United States. Said to be naturalised in one locality in Scotland, where it had been planted.

Leycesteria formosa, Wall. Native of the Himalayas. Much grown in English gardens, and occasionally found as an escape in their neighbourhood.

Lonicera alpigena, L. Native of the Alps of Southern Europe. Frequently cultivated in England, and occasionally found in a semi-wild state in hedges and woods near houses.

Lonicera Caprifolium, L. Native of bushy places in Southern and Eastern Europe. Naturalised in Northern Europe, including England. It has frequently been found as a naturalised plant in hedges, thickets, and bushy places near villages.

Lonicera etrusca, Savi. Native of the mountains of Southern Europe. Once found as a naturalised plant in a hedge.

[**Lonicera Xylosteum**, L. There seems a good deal to be said for the claims of this species as a native of Britain. There is nothing against it geographically, since it is found in the woods in Belgium—a fact apparently unknown to De Candolle when describing it as a plant of eastern range. In many of its stations it is doubtless bird-sown from gardens, like several of the introduced species of this genus, but the mere fact that it is known as a perfectly wild plant in natural surroundings should, in the absence of overwhelming geographical difficulties, be sufficient to warrant its inclusion as a native of Britain.]

Sambucus Ebulus, L. Native in bushy places in the centre and south of Europe, hardly reaching the northern coasts, except as a denizen. In England it is not uncommon locally, but always growing in waste places near villages along roadsides and in field-borders. It is one of those plants which might be expected to have existed prior to man in ground much disturbed by wild animals, but as there is no trace of it in England, except in artificial habitats, there is no warrant for claiming it as a native on this assumption. It was formerly cultivated for the manufacture of a dye, and this may account for its frequency in some parts of England.

Sambucus racemosus, Willd. A native of the Continent of Europe. Frequently cultivated in England, and occasionally noticed as a semi-wild plant near gardens and shrubberies.

Symphoricarpus racemosus, Michx. A native of the mountains of North America which has long been a favourite cottage-garden plant and which not infre-

quently appears in hedges and thickets (as a naturalised plant) near villages.

RUBIACEÆ.

Asperula arvensis, L. Native of rough stony ground at high altitudes in Syria, Persia, and Afghanistan. A weed in cornfields in Mid and Southern Europe and Northern Africa, and carried as a grain importation into many other countries, including Britain, where it was recorded as early as 1700.

Asperula taurina, L. Native in woods and shady places from South-Western France to Persia. It has long been in cultivation as one of the Madders, and is now naturalised in many localities in Britain, being doubtless a relic of cultivation.

Crucianella stylosa, DC. Native of Southern Europe. Once or twice recorded as an introduction in waste places in England, as a result, probably, of garden culture.

[**Galium Aparine**, L. One of the commonest weeds of cultivated ground, hedges, and waste places in England and the Continent. On account of its clinging fruits it is carried by cattle into all situations, sometimes far from habitations and quite wild in appearance, whither the animals go in search of food. It is from the more artificial habitats that it is almost invariably recorded in British local Floras, but careful investigation reveals it also, though more rarely, in broken stony

ground, about rabbit-warrens, fox-earths, and such-like perfectly natural situations. It should therefore be classed as a native, much extended indirectly by man.]

Galium aristatum, L. Native of woods in the Orient, and a weed of cultivated land in many parts of Europe. Once recorded in England as a grain introduction.

Galium articulatum, Roem. and Schult. A remarkable cornfield weed of Southern Europe. Once found among grain-sifting aliens in Britain.

Galium tricorne, Stokes. A widely spread weed of cultivated ground in Europe, being especially common in the East, in which region it may possibly be native, as it is recorded from the rocky hills of Palestine. In England it is particularly frequent in chalky and limestone cornfields.

Sherardia arvensis, L. Recorded as a weed of cultivated ground throughout the greater part of Europe, including England. No clearly native locality can be found in European Floras. The writer has, however, noticed it growing in the grass of the chalk downs of Surrey, but whether it was a relic of cultivation or a stray from some arable land, or whether it was an indication that the species is a native of Europe, cannot be decided without further investigation. For the present it is better to follow the consensus of opinion and treat the species as a weed of cultivation.

VALERIANACEÆ.

Centranthus Calcitrapa, Dufur. Native in stony places in the Mediterranean region. Only known as a wild plant in England, on old walls at Eltham in Kent, and formerly at Chelsea. In both these situations it is believed to have originated from neighbouring gardens.

Centranthus ruber, DC. Native on rocks in Southern Europe. Thoroughly naturalised in Southern England, near towns and villages. It has been found growing on cliffs and walls, always in more or less obvious connection with neighbouring gardens. It seems to have a less permanent footing in its more northerly stations, and is hardly more than a casual north of Birmingham.

Valeriana pyrenaica, L. Native in shady valleys in the Pyrenees. Naturalised in Scotland, originating, doubtless, from garden culture.

[**Valerianella carinata**, Lois. Native of the Continent of Europe as far as the north coast of Guernsey. There seems to be no sufficient reason why it should not also be considered native in England. There are six localities on record where the species grows in the turf in perfectly natural surroundings—exactly the habitat affected by the plant in its more southern stations. There are numerous other records where the species is certainly a weed of cultivated ground.]

Valerianella dentata, Pollich. Native of exposed

stony situations, and also of woods in Dalmatia, and a common weed of cultivated ground throughout Europe, including England. Messrs. Hanbury and Marshall think it may be native in Kent, where it grows in open places in woods. The whole question of the status of the species in Europe requires investigation. At present English botanists are hardly in a position to claim it as a native.

Valerianella eriocarpa, Desv. Native of dry hills and fields in the west and south of Europe, and a weed of cultivated ground in many parts of the Continent. It has been found in one or two places in England in waste ground. It may have been introduced with grain, but it is more likely the result of the cultivation of the species in gardens under the name of *Italian Corn Salad*.

[**Valerianella olitoria**, Pollich. A weed of cultivated ground throughout the whole of Europe. The species was considered by De Candolle to be indigenous only in Sardinia and Corsica, but its distribution in natural habitats was not fully known to him. In Belgium, as well as in more southerly countries, it is now recorded from woods, bushy places, and sea-sands, as well as from artificial habitats. The authors of the *Flora of Kent* regard it as native on the seashore of that county, and there are indications that this is the case in other parts of the coasts of Southern England. Inland, though thoroughly naturalised in hedges, banks, and walls, it is chiefly found in the neighbourhood of villages, and appears to be dependent on artificial conditions in the great majority of cases.]

Valerianella rimosa, Bast. A weed of cultivated ground throughout Europe, including England. It is probably native in sterile rocky ground in the Mediterranean area.

DIPSACEÆ.

Cephalaria syriaca, Schrad. Native of stony places in the extreme east of the Mediterranean area, and extending from there, as a cornfield weed, to Spain. It has been gathered in one or two places in England in connection with other grain-sifting aliens.

Cephalaria transylvanica, Schrad. A cornfield weed of Southern Europe. Once recorded from waste ground in England, where it was doubtless the result of corn introduction.

Dipsacus fullonum, L. Long cultivated in Europe, and occasionally found in England as a straggler from cultivation.

Dipsacus laciniatus, L. Native of wet ground in Southern Europe and the East. Recorded as a waste-ground casual near Oxford.

[**Dipsacus sylvestris**, Mill. A native of damp woods in England and Wales, but more commonly recorded from hedges, waysides, and waste places. In the north of England and Scotland it is perhaps always an introduction.]

Scabiosa maritima, L. A native of the Mediterranean region. Cultivated in English gardens, and occasionally found, more or less naturalised, in their neighbourhood.

COMPOSITÆ.

Achillea asplenifolia, Vent. Probably a native of North America. Once found in an apparently naturalised state, but with other garden plants, at Twickenham, near London, no doubt on the site of an old garden.

Achillea decolorans, Schrad. Native of Southern Europe. A garden plant which has been found once or twice as an escape from gardens in England.

Achillea ligustica, All. Native of the Mediterranean coast. Once recorded on waste ground at Grimsby. No doubt of garden origin.

Achillea magna, L. Recorded as an alien from Ireland. Presumably a garden escape.

Achillea nobilis, L. Native in the mountains of Southern Europe. Recorded from waste ground in a few spots in England, where it was doubtless of garden origin.

Achillea tanacetifolia, All. A native of Central Europe, which has been recorded, from apparently wild situations, on one or two occasions in England. Probably a garden escape.

Achillea tomentosa, L. An alpine perennial of Southern Europe, which has occasionally been found near gardens in a semi-wild state.

Ambrosia artemisiæfolia, L. A native of North America which apparently reaches this country with agricultural seed and with grain, for it has been recorded from scattered localities all over England in waste and in cultivated land.

Ambrosia maritima, L. A native of the Mediterranean region, and a weed of cultivated and waste ground in many parts of Europe. In England it has been recorded in one or two stations in connection with other grain importations.

Ambrosia trifida, L. A North American species, recorded several times in connection with imported grain in England.

Anacyclus clavatus, Pers. A native of the Mediterranean region. Common as a weed of arable land in some parts of Europe, and recorded rarely as a grain-sifting alien in England.

Anacyclus radiatus, Loisel. A weed of the Mediterranean region. Once recorded in England in connection with other grain-imported species.

Anaphalis margaritacea, Benth. and Hook. f. Native of dry woods in North America. It is an old favourite in cottage gardens, and has been recorded as well established in several localities in England, in the neighbourhood of, or on the site of, gardens.

Anthemis altissima, L. A weed of arable and waste land in Southern Europe and the East. Several times recorded in connection with plants introduced with foreign grain.

Anthemis arvensis, L. A native of the Mediterranean region in maritime pastures and in woods. The typical form is not, however, found in such situations; it is confined to cultivated land in all parts of Europe, being doubtless derived from one of the wild varieties, and spreading in a form better adapted to agriculture. In Britain it is not infrequent in the south, but becomes rare in Wales and Scotland.

Anthemis austriaca, Jacq. A native of Central and South-East Europe. Recorded by Mr. Brotherson as a grass-seed introduction in Kelso churchyard (*Botanical Record Club Report*, 1878), and by Mr. Davey as a casual in Cornwall.

Anthemis Cotula, L. Nowhere known in wild situations, but it may be presumed to have once been, or to be still, in some undiscovered spot, native in Europe, for its nearest ally—*Anthemis Bourgæi*, Boiss. and Reut.—grows in stony places in Spain. It is plentiful in England and Wales as a weed of roadsides, cultivated and waste places, but is hardly more than a casual in Scotland.

Anthemis leucanthemifolia, Boiss. and Planch. A native of North America, naturalised in some parts of Europe, and once recorded from waste ground in Surrey by Mr. H. C. Watson (*Journal of Botany*, 1866, p. 81).

***Anthemis mixta*, L.** An abundant weed of cultivation in some parts of the Mediterranean area. Once or twice recorded among grain-sifting aliens in England.

***Anthemis ruthenica*, Bieb.** A weed of South-East Europe, mentioned by Mr. Davey as a casual at Penzance in Cornwall.

***Anthemis tinctoria*, L.** Native of Southern and Central Europe. Recorded in many scattered localities in England, in waste and cultivated ground. In some cases its origin has been traced to imported Eastern barley, in others agricultural seed has probably been the cause of its appearance.

[***Arctium minus*, Bernh.** A native of Britain, but almost always recorded from non-native habitats. It is abundant, in consequence of its clinging burs, along the tracks of men and cattle, and so has got to be looked upon as a weed of roadsides, but it may also be found wherever animals, domesticated or wild, congregate, and often under perfectly natural conditions, so that it may well be supposed to have existed prior to man, and to be a member of our indigenous flora.]

***Arnoseria pusilla*, Gaertn.** Native in sandy pastures in a few parts of Central Europe, elsewhere a weed of sandy cultivated fields, becoming very rare in the extreme south and north. In British local Floras there is no indication that the species is known except in cultivated land in the south-eastern counties, and in a few other isolated spots.

[**Artemisia Absinthium**, L. From published records the species seems to be native in England, Germany, and Transylvania. Its range as a plant of waste ground extends nearly round the North Temperate Zone. Mr. Murray declares it to be native on the moors and sea-beaches of Somerset, but in the rest of the British Isles it is only found in obvious connection with human operations, where it is pretty generally distributed.]

Artemisia cœrulescens, L. Native of the Mediterranean region. Recorded by Gerarde as occurring on the coast of Southern England, but whether it was an introduction there, or whether this was a wrong determination, cannot now be ascertained.

Artemisia pontica, L. A native of dry hills from Southern Germany to the Caucasus. It has been grown in English gardens, under the name of Roman Wormwood, from early times, and has been found as a relic of cultivation in one or two localities.

Artemisia scoparia, Waldst. and Kit. A native of sandy river banks in South-East Europe and Asia, now common in waste ground in many parts of the world. Recorded by Trimen and Dyer in their *Flora of Middlesex* as plentiful on the site of the 1862 Exhibition for some years, and mentioned by Davey as a casual in Cornwall.

Artemisia stelleriana, Bess. A native of Kamschatka. Quite naturalised in County Dublin and Cornwall, as well as in Southern Sweden. The status of the species in Europe was the subject of some interesting notes in the *Journal of Botany* in 1894.

Artemisia Tournefortiana, Reichb. Native on sandy shores and salt marshes from Asia Minor to Afghanistan. Recorded by Mr. Druce in the *Flora of Berkshire* as an introduction at Didcot.

[**Artemisia vulgaris**, L. Native in rough stony and sandy ground from Scotland to Siberia. Formerly cultivated in Europe. In England it is recorded only from hedges and the neighbourhood of houses, never from natural situations. The same habitats hold over the whole of its range in Europe and Asia, with the exception of the extreme north. There it occurs in various reduced forms, in localities where it may be considered indigenous. Mr. Marshall's accurate researches in West Sutherland enable British botanists to add this species to their native list.]

Aster lœvis, L. A native of North America. One of the commonest of our garden Asters, and occasionally found in a naturalised state in the neighbourhood of gardens.

[**Aster Linosyris**, Bernh. In consequence of its scattered stations in Britain, and its cultivation in gardens, many botanists have regarded the species as an introduction. As, however, its Continental native range reaches Normandy, and as some of its stations in Britain are perfectly natural, it seems more in accordance with our knowledge to admit it as an indigenous plant.]

Aster longifolius, Lam. A native of North America much cultivated in England. It has occasionally been noticed in a semi-wild state, and seems to have

established itself in particular abundance on the banks of the Tay below Perth.

Aster Novi-belgii, L. A native of North America which has long been a favourite in English gardens. Of the many Asters found in a semi-naturalised state this is certainly the commonest.

Aster paniculatus, Lam. A North American Aster. Occasionally found in a naturalised state as an escape from gardens in England.

Aster Tradescanti, L. A native of North America. Recorded as an escape from gardens in England.

Atractylis cancellata, L. Native of the dry hills of the Mediterranean region. Recorded once as a grain introduction in England.

Bæria carnosæ, Greene. A native of California. A specimen is preserved in the Herbarium of the British Museum which was found as a casual growing on ballast in Cornwall.

Bupthalmum aquaticum, L. Native of wet meadows in the Mediterranean region. Recorded by Mr. Lees, in his *Flora of West Yorkshire*, p. 294, as sent to him from a disused quarry where garden rubbish was thrown. It has also been noticed on waste ground near Bath. It is not grown in gardens, nor is it likely to be imported with grain, so that no clue as to its origin in England could have been suggested, had not chance revealed a channel of introduction. Upon experimentally sowing a sample of bird seed a few years ago, a quantity of this

species came up, and its seed was afterwards recognised in other samples. This is, therefore, probably one of the casuals introduced with foreign bird seed.

Calendula arvensis, L. A native of dry sandy hills in South-East Europe and Western Asia. Its range as a weed of cultivation extends from there through the Mediterranean area into Central Europe. Several times recorded from waste ground in England and Scotland, evidently introduced with grain.

Calendula officinalis, L. The common garden *Mari-gold*. A native of calcareous rocks in the Mediterranean region. It is a frequent straggler from cultivation; in fact, it is one of the most consistent and conspicuous indications of colonies of aliens resulting from the throwing out of garden rubbish.

Calotis cuneifolia, R. Br. A native of arid sandy ground in Australia. It infests sheep pastures in many parts of that Continent and New Zealand. Its seeds cling, by means of their barbed bristles, to the sheep's wool, and, becoming inextricably entangled, are imported with the wool to this and other countries. The pest is known as the *Burr* to sheep-farmers, and as *Carrot Seeds* to wool-dealers (in consequence of their conical shape). It has been recorded in England in connection with wool refuse.

Calotis hispidula, F. v. M. A native of the Western Plain of New South Wales, having the same character and being recorded in the same conditions as the last.

Carbenia benedicta, Adans. A plant of dry, waste, and cultivated ground in the Mediterranean region. Once recorded in England as a Turkish barley introduction.

Carduus acanthoides, L. Native of woods and pastures in South-East Europe. In England and the whole of Western and Northern Europe the species confines itself to roadsides, hedges, and waste places, and must therefore be looked upon as a weed dependent on artificial conditions.

Carthamus lanatus, L. Native in dry bushy places in the Mediterranean region, but more common in Europe as a weed of cultivated and waste ground. It has been noticed in England only as a casual, introduced with foreign grain.

Centaurea amara, L. Native in the woods of Southern Europe. One of the species recorded upon the site of the 1871 Exhibition in London.

Centaurea aspera, L. Native of dry ground in the Mediterranean region, and a common weed in Southern Europe. It has been recorded among grain aliens in England.

Centaurea Calcitrapa, L. Native in dry places in the Mediterranean region and naturalised in many other parts of the North Temperate Zone, along roadsides, and in cultivated and waste places. It has frequently been recorded in England. With one or two exceptions its English stations are of the latter sort, and, although in a few exceptional places the plant is described

as growing in natural surroundings, it can hardly be admitted to a place in our native list in the face of its geographical distribution.

***Centaurea calcitrapoides*, L.** Native in the Mediterranean region. Once recorded as an introduced casual in England.

***Centaurea centauroides*, L.** Indigenous in the dry mountain pastures of South-East Europe and a weed of dry arable land over a rather wide area. It has been noticed in England as a casual (presumably grain-introduced).

***Centaurea Cyanus*, L.** It appears to be indigenous in woods in Southern Russia and Asia Minor, and it has a wide range as a cornfield weed in Europe. In Southern and Mid-England it is often plentiful among cereal crops, but further north it becomes scarce.

***Centaurea dealbata*, Willd.** A native of rocky places in the Orient. Cultivated in gardens in England, and occasionally reported as an escape from horticulture.

***Centaurea depressa*, Bieb.** A native of Asia Minor, better known as a cornfield weed in South-East Europe. Communicated by Mrs. Baker from Oulton Broad. Introduced with Eastern barley.

***Centaurea diffusa*, Lam.** Indigenous in dry sandy situations in South-East Europe and Asia Minor, and a cornfield weed in the same region. Once or twice noticed in connection with introduced grain.

Centaurea diluta, Ait. A native of Northern Africa. A specimen exists in the British Museum Herbarium gathered on waste ground in Upper Holloway.

Centaurea iberica, Trev. A weed of cultivated and waste ground from South-East Europe to Persia. Recorded as a grain introduction in one or two places.

Centaurea intybacea, Lam. A native of exposed rocky ground in South-West Europe. Recorded as a wool introduction at Tweedside, Kelso, by Mr. Brotherson.

[**Centaurea Jacea**, L. Apparently truly indigenous in meadows in Sussex, as it undoubtedly is in Normandy and Belgium. In other parts of England it has frequently been recorded as an alien; being so much more frequent as an introduced plant, it has generally been excluded from the native English list.]

Centaurea melitensis, L. Native in dry stony places in South-East Europe, and at the present time a not uncommon cornfield weed of the Mediterranean area. It has frequently been noticed in company with other grain introductions in England.

Centaurea montana, L. Indigenous in the woods of Central Europe. Long cultivated in English gardens, and occasionally noticed as an escape.

Centaurea napifolia, L. Indigenous in the pastures of Southern Europe. A specimen, gathered by Mr. Arthur Bennett at Kelso, is preserved in the British Museum Herbarium. It was doubtless a casual.

Centaurea nigrescens, Willd. Native of the meadows of Southern Europe. Once recorded as a casual in waste ground near London.

Centaurea salmantica, L. A native of Southern Europe. Recorded once or twice as an introduction in England.

Centaurea solstitialis, L. A native of the east of the Mediterranean area in dry stony ground, and common in the whole of Southern Europe as a weed of arable land. It is of frequent occurrence in Southern England among grain aliens and among crops raised from foreign seed.

Centaurea Verutum, L. A native of Asia Minor which is cultivated in gardens in England. Recorded as a casual in Cornwall.

Chrysanthemum coronarium, L. A native of sea sands and desert and rocky places in the Mediterranean area, but much more common in cultivated land. It is rather frequently noticed in England, both as a grain-sifting introduction and as a garden escape.

Chrysanthemum Parthenium, Bernh. Indigenous in the woods of Southern and South-East Europe. In the rest of Europe, including Britain, it is sometimes plentiful near gardens in which it has been cultivated.

Chrysanthemum segetum, L. It is rare as a native plant, being only known from a few parts of the Mediterranean area in pastures. It is, however, a very

common weed of cultivated land throughout Europe, including Britain.

Cichorium divaricatum, Willd. A weed in waste ground in the Mediterranean region which has been noticed among cornmill refuse in England.

Cichorium Endivia, L. Generally cultivated as a vegetable, and occasionally noticed as a garden escape in England.

Cichorium Intybus, L. A plant of uncertain status in North-West Europe. It is invariably relegated in local Floras to roadsides and waste ground, except in South-East Europe, where it apparently occurs naturally in dry pastures. It seems better to regard it as an introduced weed of long standing in Britain until it is observed in more natural habitats.

[**Cnicus arvensis**, L. A native of dry pastures in Britain, but much more common as a weed of cultivated fields, roadsides, and waste ground. The variety *setosus*, which is common as a cornfield weed in Southern Europe, is frequently found as an introduced plant.]

Coreopsis aristosa, Michx. Native of North America. Recorded by Mr. Cedric Bucknall on waste ground near Bristol.

Coreopsis tinctoria, Nutt. A well-known garden plant. Native of the plains of North America. Once or twice recorded in England as a garden escape.

Cotula aurea, Loeffl. Recorded from waste ground in one locality in England, where it was probably introduced with chicken food.

Cotula coronopifolia, L. Perhaps a native of wet places in Southern Africa. Now naturalised in several places in Europe, and annually extending its range. In England it is thoroughly established near Birkenhead in Cheshire, where it is supposed to have been purposely introduced.

Crepis barbata, L. Recorded by Mr. H. C. Watson from Devonshire in a locality in which it was probably of garden origin.

[**Crepis biennis**, L. Native in dry broken and bushy ground in the south-eastern counties of England. Elsewhere in Britain a weed of roadsides, clover-fields, and other cultivated ground.]

Crepis foetida, L. Native of sandy seashores, dry meadows, and rocky places in South-East Europe. Further north and west it is only recorded from corn-fields and waste ground. In England, though often styled a native in the south-eastern counties, it is usually recorded expressly from artificial habitats. The record from shingle at Walmer Castle, where it is said to be abundant, should probably not be taken as sufficient reason for admitting it as a native of Britain, in view of the present records of its foreign native range.

Crepis nicæensis, Balb. A native of dry pastures in Central and South-East Europe. In England occasionally noticed in sown grass fields and occasionally

spreading from there to waste ground in the neighbourhood.

Crepis rubra, L. A native of Italy, long cultivated for ornament in English gardens, and occasionally found as an escape from cultivation.

Crepis setosa, Hall. f. A native of the meadows of Central and Southern Europe. In England frequently recorded in clover and sown grass fields. In many cases due, no doubt, to imported seed.

[**Crepis taraxacifolia**, Thuill. Native in South-East England in meadows and bushy places, especially on the chalk. Elsewhere in Britain it is merely a weed, though often abundant in cultivated land, on roads, railway banks, and other bare ground where the young plants can be free from competition.]

Crepis tectorum, L. Native in meadows in Central and perhaps in South-East Europe. It becomes rare, and only a weed of waste ground, in the north of the Continent and in England. Its abundance as a cornfield weed in some parts of South-East Europe suggests that it may be a grain introduction with us.

Dimorphotheca pluvialis, Moench. Native in grassy places in Cape Colony, whence it was long ago imported as a garden plant. It has been recorded in England in a semi-wild condition near gardens.

[**Doronicum Pardalianches**, L. Native in woods in the mountainous districts of the north of England and Scotland. It has been generally relegated to the position

of a naturalised alien of garden origin in Britain, and in many of its localities, especially in the south, this is doubtless its proper status. Its presence, however, as a native in Normandy, Belgium, and Holland, and its long standing (since the time of Gerarde) as a spontaneous plant of this country, seem to warrant its acceptance as a native.]

[**Doronicum plantagineum**, L. Native in woods in Perthshire. Subject to the same conditions as *Doronicum Pardalianches*. Its foreign distribution is strictly western, stretching from Portugal to Normandy.]

Encelia mexicana, Mart. A native of Mexico. Once recorded from waste ground in Bristol.

Erigeron canadense, L. A native of North America, now spread all over the temperate regions of the world. It was first noticed in the seventeenth century in France, and a few years later in England also. It is now a common weed, especially in the southern and eastern counties, where it frequently has all the appearance of a native.

[**Filago germanica**, L. Native in England in dry pastures and heaths. It is much more abundant as a weed of dry cultivated fields, and in most local Floras is recorded only as such.]

Filago spathulata, Presl. A weed of cultivated ground over the greater part of Europe and in Northern Africa. It may perhaps be a native of the mountains of Corsica, where it is recorded from natural habitats. In England it is confined to the south-eastern counties.

Galinsoga parviflora, Cav. Native of rough, marshy, and stony ground in Central and South America. It was first noticed in Europe at the beginning of the nineteenth century, and it is now locally abundant in different parts of the Continent and of England. It is particularly abundant about London. Its occurrence among corn-siftings suggests that the introduction of American wheat may have been the cause of its appearance in Europe.

[**Gnaphalium luteo-album**, L. Apparently native on the Continent, up to the north-west coasts, and extending to Jersey and Guernsey. Though it has usually been regarded as a casual in England (and may be so in many cases), records such as Mr. Linton's in the *Botanical Exchange Club Report* for 1882, where he describes it as well established, if not native, may well be admitted as indigenous ones. Mr. Britten, in *Journal of Botany*, 1900, p. 520, gives other reasons for considering it indigenous.]

Grindelia squarrosa, Dunal. A native of the prairies of North America, and spreading rapidly as a weed of cultivated ground in the United States. Several times recorded in England in connection with the siftings of imported grain.

Guizotia abyssinica, Cass. A bird-seed introduction. The species is one of the oil-producing plants of India, and its seeds are evidently used for making up packets of bird seeds. Several times recorded in England and from other parts of Europe from waste ground.

Helianthus annuus, L. A native of river banks in North America. Long one of the commonest of English garden plants, and very frequently observed as an escape.

Helianthus tuberosus, L. Native of moist alluvial ground in North America. Cultivated by the aborigines, and long since introduced into Europe under the name of Jerusalem Artichoke, and tending to become established in and near garden ground.

[**Helminthia echioides**, Gaertn. Although generally recorded as a weed of roadsides and other artificial situations, it is doubtless a true native of England. Its natural stations are to be looked for in dry copses and such-like places. These are the situations in which it is indigenous throughout the whole of Europe.]

Hemizonia fasciculata, Torrey and Gray. A Californian weed. Occasionally recorded as a grain introduction in England.

Hemizonia Kelloggii, Greene. A weed of dry ground in the United States. Several times noticed in connection with other grain-sifting aliens in Britain.

Hemizonia pungens, Torrey and Gray. Native of dry hills in the United States, and a common weed there also. It is on record from several localities in Britain, near cornmills where American grain has been used.

Hieracium amplexicaule, L. A native of Southern Europe. Long cultivated in English gardens, and now

thoroughly established in several places on old walls near villages.

Hieracium aurantiacum, L. Native of the Alps of Southern Europe. An old garden favourite. Often thoroughly and abundantly naturalised near gardens.

Hieracium chondrilloides, Vill. A native of bushy hills in Central Europe. Sometimes recorded as a garden escape in England.

Hieracium maculatum, Schrank. A rather widely cultivated garden plant which has frequently been recorded as naturalised on walls and waste ground near gardens.

Hieracium præaltum, Vill. Once recorded by Mr. Craig Christie as plentiful on roadsides near Edinburgh (*Botanical Record Club Report*, 1877). It is a native of Central and Southern Europe, presumably of garden origin in this locality.

[**Hypochæris glabra**, L. With a few exceptions this species has been universally recorded in local Floras from cultivated ground, but it is truly native on open sandy commons in most counties of Southern England.]

[**Inula britannica**, L. Recorded by Mr. Mott in the *Botanical Exchange Club Report* for 1895 as naturalised on the shore of Cropstone Reservoir near Leicester. It is indigenous in marshes and on river banks from Normandy and Belgium to the Orient, and if, as seems possible, the seeds were introduced by migratory water-fowl, the species may be regarded as a native.]

[**Inula Helenium**, L. Native in meadows and bushy places from Southern England and Spain to the Altai Mountains. It has been recorded from all parts of England and Wales, and in a few of its localities it is declared by local botanists to be undoubtedly native. In most of its stations, on the other hand, it is with equal certainty declared to be a relic of cultivation. In weighing these contrary opinions, help is naturally looked for from a consideration of its history and its geographical distribution. Both these favour its native status, for it was known to the earliest botanists as growing spontaneously in the country, and its range on the Continent reaches the north coast.]

Inula viscosa, Ait. Native of sandy river banks in Southern Europe. Once recorded as growing on ballast at Cardiff.

Iva xanthifolia, Nutt. Recorded by Mr. Hume among the introduced aliens in the neighbourhood of Par Harbour.

Lactuca Scariola, L. A plant of waste ground in England, as it is in the greater part of Europe. Where it is known in natural habitats the writer has been unable to discover, but it seems certain that it cannot be claimed as a native of this country.

[**Lactuca virosa**, L. Native of woods and stony and sandy places on the Continent, and probably also in the South of England. In most of its English stations it is said to be a weed of roadsides and waste ground.]

[**Lapsana communis**, L. Undoubtedly a native of England, though very seldom recorded in local Floras from natural habitats. It may be found in wood borders, newly cut copses, and bushy slopes, but it is only abundant as a weed of roadsides and of cultivated and waste ground.]

Madia glomerata, Hook. A native of North American prairies. Once recorded in England near a cornmill and in connection with other North American weeds. Probably imported with corn.

Madia sativa, Molina. A native of sterile mountain ridges in Oregon, and also a weed of cultivated land, especially in California. It has been found in several localities where American corn has been introduced.

Matricaria Chamomilla, L. Probably native in dry pastures in Italy and other parts of the Mediterranean area, though the only record from natural habitats that can be found is from Liguria. In England and the rest of Europe it is a weed of roadsides and cultivated ground. There seems reason to suppose that it may have been introduced originally for medicinal purposes.

Matricaria decipiens, C. Koch. A cornfield weed of the Orient, communicated by Mrs. Baker from Oulton Broad. Introduced with barley.

Matricaria discoidea, DC. A native of open ground in Oregon and other parts of the United States. It has become naturalised in several parts of Europe. In England it has been recorded in the neighbourhood of

some of our larger towns. It is, for instance, thoroughly naturalised in the turf of Kew Green, South-West London.

[**Matricaria inodora**, L. The variety *salina*, Bab., is apparently native on the seashores and cliffs of Southern England, so that the type which is so common on waste ground and arable land may perhaps be looked upon as an artificial extension of a native seaside plant. This supposition gains support from Mr. Reid's discovery of fragments of this species in interglacial deposits in England.]

Mulgedium tataricum, DC. Native of seashores in Eastern Europe and Western Asia. Recorded as a casual in England.

Onopordon Acanthium, L. A weed of waste ground throughout the whole of Europe and Western Asia, especially along roadsides. No distinctly natural localities are given for the species in any of the local Floras, British or foreign, which have been consulted, but there can be little doubt that it is indigenous on the dry sandy hills of Southern France, where it may be seen growing quite independently of human interference.

Parthenium Hysterophorus, L. An abundant weed of hot and dry waste places in tropical America, especially in towns. It has several times been recorded as a weed of waste ground in England, and usually in connection with introduced grain.

Petasites albus, Gaertn. Native of wet mountain pastures from Central Europe to the Altai region. Recorded in many places as an escape from gardens.

Petasites fragrans, Presl. A native of the Mediterranean region, now naturalised in most of the countries of Europe. Though of much more recent introduction as a garden plant in England than *Petasites albus*, it is far more common as a naturalised escape from cultivation than that species.

[**Picris hieracioides**, L. Undoubtedly a native of Britain. It is generally recorded in Floras as a plant of roadsides, waste ground, and other artificial habitats. It may be found, however, in perfectly natural situations in woods and dry pastures, especially in limestone districts.]

Picris pilosa, Delile. A weed of cultivated ground in the Eastern Mediterranean region. Once recorded with other aliens in connection with the siftings of Eastern barley.

Picris spinulosa, Bertol. Native of dry pastures in the south of Europe, and also a weed there of cultivated ground. It has been recorded as a grain-introduced casual in England.

Prenanthes purpurea, L. Native of woods and bushy places of Central and Southern Europe. Occasionally found as an escape from English gardens.

Rhagadiolus edulis, Gaertn. Native of the Mediterranean region. One of the casual introductions found near the West Dock at Hull.

Rodigia commutata, Spreng. Native of dry grassy hills in the east of Europe. One of the grain-sifting aliens introduced with barley from the East.

Rudbeckia laciniata, L. A native of North America, a specimen of which is preserved in the Watson Herbarium at Kew, having been found by Sim (doubtless as an introduction) in Scotland.

Santolina Chamæciparissus, L. Native of the mountains of Southern Europe. Recorded by Mr. Hume as a garden escape in Cornwall, the species being apparently grown for ornament in cottage gardens.

Sanvitalia procumbens, Lam. A native of Mexico, the seeds of which are used for feeding birds, and which occasionally appears as a waste ground casual in England.

Schkuhria abrotanoides, Roth. A native of Peru. Sent to the writer by Mr. Cedric Bucknall from waste ground near Bristol.

Scolymus hispanicus, L. A native of rough stony ground, and a weed of roadsides and field-borders in Central and Southern Europe. Occasionally found in England on ballast.

Senecio brasiliensis, Lees. A native of Brazil, recorded as a wool introduction from near Galashiels, Selkirk, by Mr. Brotherson (*Botanical Record Club Report*, 1874).

Senecio Cineraria, DC. A native of the seashores of Southern Europe which has long been a favourite garden plant, and has been recorded on cliffs in Devonshire as an abundantly naturalised garden escape.

Senecio crassifolius, Willd. Native of the shores of the Mediterranean. Recorded once or twice in waste ground in England.

Senecio Doria, L. Native of meadows and marshes in Central and Southern Europe. It has been recorded as an introduction in England.

Senecio sagittatus, Sch. Bip. A native of woods in Russia and Eastern Asia. Grown in gardens in England, and said to have been established for many years on the banks of the Avon near Bath, whither it doubtless escaped from some neighbouring garden.

[**Senecio sarracenicus**, L. Native on river banks in some parts of Britain, but in most of its localities probably introduced originally through its use as a cattle medicine. As it is native in Holland and Denmark in similar localities to those mentioned above, there is no reason to doubt that it is native in Britain, though it may probably be rare in that state.]

Senecio squalidus, L. Probably a native of Sicily, where it grows profusely on the volcanic sands. It is supposed to have been introduced into the Oxford Botanic Garden, and to have spread from there to other towns where it is now established on old walls. In the neighbourhood of Oxford it is not only holding its ground, but rapidly spreading along railway banks, roadsides, and other waste ground.

Senecio vernalis, Waldst. and Kit. A native of sea sands and of rocky mountain slopes in the south-east

of Europe, in which region it also becomes a cornfield weed. It has been noticed many times in connection with grain introduction in England.

[**Senecio viscosus**, L. A native of Europe, reaching the woods of Normandy and Belgium. In England it is very common as a weed of waste ground, but it is also averred to be native of shingles and sand-hills in many parts of our coasts, and, considering its foreign distribution, there is no reason to doubt this.]

[**Senecio vulgaris**, L. This species is so universal in all temperate parts of the world, as a weed of cultivated and waste ground, that it is impossible to say where it may have existed before the advent of man. It would, however, be equally impossible to prove that it is not aboriginal and indigenous on ground naturally broken by wild animals and on river banks, in both of which situations it is a characteristic plant in Britain.]

Silybum Marianum, Gaertn. A native of the Mediterranean region and the East. In other parts of Europe, including England, it is only known as a weed of waste ground. Its dissemination has doubtless been greatly accelerated by garden culture.

Solidago lanceolata, L. A native of marshes on the prairies of North America. Cultivated in gardens and occasionally recorded as an escape.

Sonchus arvensis, L. It is very doubtful whether the type of this species has ever been found in natural habitats. It has certainly never been recorded so in

England, where it is, however, rather a common weed of cultivated land. The presence of two varieties, *uliginosus* and *maritimus*, in marshes and on seashores respectively in South-East Europe, may be a clue to its origin.

Sonchus asper, Hill. A common weed of cultivated and waste ground in England. It is very common in parts of the Mediterranean area, and appears to be native there on bare sandy hills.

Sonchus oleraceus, L. A common weed of cultivated and waste ground in Britain. Native in the Mediterranean area in wet sandy places.

Stuartina Muelleri, Sond. A native of Australia. Recorded from Yorkshire as a casual introduced with Australian wool.

Tagetes micrantha, Cav. Native of Mexico. Once recorded as a casual near a cornmill, and therefore probably a grain introduction.

[**Tanacetum vulgare**, L. Native of river banks and rough bushy hillsides in England, though generally recorded from such artificial surroundings as roadsides, hedges, and field-borders.]

Tragopogon crocifolius, L. A native of bare hills in the Mediterranean region, where it is also a cornfield weed. It has been noticed as a grain introduction in England.

Tragopogon orientalis, L. A native of mountain

meadows from France to Siberia. Occasionally recorded from waste ground in England.

Tragopogon porrifolius, L. Native in grassy places in Southern Europe. Long cultivated in Northern Europe as a vegetable (*Salsify*), and now often noticed in a semi-naturalised state near gardens where it has been cultivated.

Villanova dissecta, DC. Native of Peru. Recorded as a casual in waste ground near Hull Dock, and elsewhere in connection with grain aliens.

Volutarella muricata, Benth. and Hook. f. Recorded by Mr. Britten in the *Journal of Botany*, 1863, p. 375, on waste ground near Kew Bridge. It is a native of Morocco.

Xanthium spinosum, L. The species is now so widely spread along many of the trade routes of the world, and especially about large towns, and has become so abundant, that it is difficult to determine where it is truly indigenous. Substantial claims have been advanced for the Steppes of Russia and for South America as its home, but, at any rate, it is clearly not native in Western Europe, where it was first observed in the year 1700.

Xanthium Strumarium, L. A rare weed of waste ground in England. It is very widely spread in all parts of the world, probably on account of the great tenacity of its fruits, which adhere to any but the smoothest surfaces, and are therefore liable to be carried on bales of merchandise and other distributing media.

Xeranthemum cylindraceum, Sm. An annual weed in dry cultivated ground in Southern Europe. Recorded by Davey as a casual in Cornwall.

CAMPANULACEÆ.

Campanula Medium, L. Native in dry places in the mountains of Northern Italy. It is commonly cultivated in England, and has occasionally been noticed as an escape in the neighbourhood of gardens.

[**Campanula patula**, L. Native in woods in a few places in the south of England and Wales, or perhaps extending to the Midlands. The greater number of its stations in Britain are of an artificial character, such as roadsides, hedges, and field-borders.]

[**Campanula persicifolia**, L. Native of elevated woods and pastures in most parts of Europe, including, according to Mr. Druce (*Journal of Botany*, 1903, p. 289), one spot in England. In Britain it is, however, chiefly an escape from gardens.]

Campanula rapunculoides, L. Native of woods and meadows from Asia Minor to France and Germany, becoming rarer northwards, and in North France, Belgium, Holland, and England only recorded from waste ground near houses, from roadsides, and from cultivated fields.

Campanula Rapunculus, L. Native of meadows and woods from Syria and Western Siberia to Belgium

and Northern France. It is often recorded in England, especially in the midland and southern counties, as a weed in hedges and on roadsides. It has long been cultivated for the sake of its edible roots, and it is probably due to the size and durability of its rootstock that it now appears in so many places in Britain, though apparently not indigenous in the islands.

Specularia hybrida, A. DC. Probably native on the slopes of mountains in the Mediterranean region. In other parts of Europe, including England, a more or less common cornfield weed.

Specularia Speculum, A. DC. Probably native in the Mediterranean region. Elsewhere on the Continent a cornfield weed. It occurs in England in waste ground as a grain introduction, as a garden escape, and occasionally also as a weed introduced into arable land with foreign seed.

ERICACEÆ.

[**Dabœcia polifolia**, D. Don. Native on heaths in Ireland, Western France, Portugal, and Northern Spain. It has been recorded from a few wild situations in England, where it is known to have been planted.]

Erica carnea, L. Native from Southern Germany and Switzerland to the Orient. Recorded by Dr. Hance from a heath near Newton Abbot, Devonshire. If correctly named, it may doubtless be assumed to be an introduction.

[**Erica mediterranea**, L. Native from Ireland to Spain. One large bush was recorded by Mr. Wheldon (*Science Gossip*, 1891, p. 185) in Cornwall. It was considered to be an escape from cultivation.]

[**Erica vagans**, L. Native on heaths in Cornwall. It is recorded as planted for ornament in a few wild localities in other parts of England.]

Oxycoccus macrocarpus, Pers. A native of bogs in North America. Frequently planted by ornamental waters in England, and occasionally having the appearance of a naturalised species.

Rhododendron ponticum, L. Commonly cultivated in England, and occasionally planted among indigenous vegetation for ornament.

PRIMULACEÆ.

[**Anagallis arvensis**, L. A widely spread weed of roadsides, cultivated and waste places. It is native on sand-dunes in England, as well as in Southern and Western Europe. It is not often recorded in England from natural habitats, and may be confined as a native to the south-western counties. On the other hand, it may perhaps have a wider indigenous distribution, as such a common plant would often be overlooked in unusual habitats. With regard to the variety *cærulea*, the plant recorded under this name by British botanists is the blue-flowered form of the Pimpernel, differing from the type in no other respect than colour. It is

a common cornfield weed in Europe, and frequently reaches this country as a grain introduction.]

Androsace maxima, L. A Mediterranean cornfield weed, communicated by Mr. Fraser Robinson from Hull, among other casuals.

Cyclamen hederæfolium, Ait. Native in shady woods of Southern Europe. It has been claimed as a native in Sussex and other counties, where it occurs in woods and hedges. A consideration, however, of its general cultivation, its powers of persistence where once cultivated, and its limited southern distribution, make it almost certain that the species is an introduced one in Britain.

Lysimachia punctata, L. A native of damp shady places from Belgium to Southern Russia. It has been grown in English gardens, and has been recorded as more or less established in a few localities. In Canada and the United States it is also known as an adventive from Europe.

Lysimachia stricta, Soland. Native of wet ground in the United States. Naturalised on the shores of Windermere. Probably of garden origin.

Steironema ciliatum, Rafin. A native of low ground and thickets in the United States. Long cultivated in England, and now sometimes occurring in a semi-naturalised state near gardens or where gardens have been.

OLEACEÆ.

[**Ligustrum vulgare**, L. A true native of Britain, though much more common at the present time as a planted shrub in hedges and gardens.]

Syringa vulgaris, L. A native of woods in Central Europe. Much cultivated in England, and occasionally observed in apparently wild surroundings, where it has escaped from cultivation.

APOCYNACEÆ.

Vinca major, L. Native of the woods in South-East Europe. Not uncommon in England as an escape from gardens.

[**Vinca minor**, L. Native in woods in Southern England, as it is in the neighbouring parts of the Continent. Much more common, however, as a garden escape than in the indigenous state.]

HYDROPHYLLACEÆ.

Phacelia ciliata, Benth. A native of damp shady places in California. Once recorded from waste ground at Silloth in Cumberland.

Phacelia parviflora, Pursh. A native of shady places in North America. Observed on the banks of the Thames between Kew and Richmond.

Phacelia tanacetifolia, Benth. A native of sandy and gravelly banks of streams in North America. Much grown in England for purposes of apiculture, and occasionally found in quasi-wild situations.

POLEMONIACEÆ.

Collomia grandiflora, Dougl. A native of the plains of North-West America. Cultivated in British gardens, where it frequently becomes spontaneous, and even escapes into waste ground in the neighbourhood.

Collomia linearis, Nutt. Native of North-West America, and observed by Mr. A. B. Jackson as a garden weed in Leicestershire.

Gilia achilleæfolia, Benth. A native of Western North America, recorded by Davey as a casual in Cornwall.

Gilia capitata, Sims. A native of low ground in California and a weed of cultivated ground throughout North America. Several times recorded as a grain-sifting introduction in England.

Gilia intertexta, Steud. Native of dry hills in California, and a weed of arable land in the United States. Twice recorded as a grain introduction in Britain.

Gilia laciniata, Ruiz and Pav. A Californian species which has been observed as a grain introduction in Cumberland.

Gilia micrantha, Steud. Noted by Davey as a casual in Cornwall. A native of California.

Gilia multicaulis, Benth. A Californian weed. Once or twice observed on waste ground in connection with grain introductions.

Gilia tricolor, Benth. A common weed in California, which has been recorded from waste ground in Britain.

[**Polemonium cæruleum**, L. Truly wild and native in the limestone tracts of Northern Britain. Not uncommon throughout the whole of Britain as a garden escape.]

BORAGINACEÆ.

Alkanna lutea, A. DC. A native of Southern Europe. Once recorded from waste ground in Britain.

Amsinckia angustifolia, Lehm. Native of Chili. Recorded by Mr. Davey as a casual near Penzance in Cornwall.

Amsinckia lycopoides, Lehm. A native of California and common there in cultivated fields. Rather frequently recorded in England as a grain introduction, and as a wool-waste plant.

Amsinckia spectabilis, Fisch. and Mey. Native of California. Has been recorded as a casual on waste ground in the neighbourhood of Liverpool.

Anchusa hybrida, Ten. A native of the shores of the Eastern Mediterranean area, and a weed there in cultivated fields. Occasionally found as a grain introduction in England.

Anchusa italica, Retz. A weed of waste ground in Southern Europe. Observed in waste ground about Bristol and Bath. Very probably a result of garden cultivation.

Anchusa officinalis, L. A native of Central and Southern Europe which occurs in many parts of England and Scotland in a half-wild state. Being a perennial, it frequently lasts for a long time in hedges and field-borders near gardens where it is cultivated.

[**Anchusa sempervirens**, L. The distribution of this species is from Portugal to England. The confidence with which it is claimed as a native by the authors of local Floras decreases in proportion as it extends towards the north. It is, however, so claimed by botanists in Western France, Normandy, Jersey, and Southern England, and, being a plant of decidedly western range, it may be admitted to our Flora. It is not uncommon as an escape from gardens.]

Anchusa strigosa, Labill. A weed of cultivation in Syria and Persia. Observed among weeds derived from the siftings of Turkish barley in waste ground near Bath.

***Anchusa undulata*, L.** A weed of Southern Europe and Western Asia. Recorded on several occasions in connection with grain introductions.

***Asperugo procumbens*, L.** It is probably native in the region between South-East Europe and Afghanistan, the only part of the world in which it has been recorded from any but obviously artificial habitats. It is very common throughout that area as a weed of waste and cultivated ground, and extends in the same localities over Europe, Western Asia, and North Africa. In England it has long been known as a weed of cultivated ground, and it is also rather a frequent grain introduction.

***Borago officinalis*, L.** A native of rich damp ground in the Mediterranean region. Now extended by cultivation throughout Europe. In England it is a frequent escape from gardens.

***Cerithe minor*, L.** Native in mountain pastures of the Mediterranean area and the Orient. Cultivated in gardens in England, and sometimes recorded as a semi-naturalised escape.

[***Cynoglossum officinale*, L.** Native in bushy places among rocks and on sand-dunes in Britain, and dispersed along roadsides and other places frequented by men and cattle, by reason of its clinging seeds. It is, in fact, much more common in the latter class of localities, and seldom receives recognition in its natural habitats.]

***Echinosperrum deflexum*, Lehm.** A native of the dry hills of many parts of the North Temperate Zone.

In England it is only known as a cultivated plant and as an escape from gardens.

Echinosperrnum Lappula, Lehm. Native in various parts of the North Temperate Zone of the Old World, and often a common weed of cultivated ground in that region. In England it only occurs in waste ground, being introduced with imported grain, wool, and hides. Its fruits render it peculiarly liable to be carried in the latter class of merchandise.

Echinosperrnum Szovitzianum, Fisch. and Mey. Native of the Orient. Once recorded as a grain introduction.

Echium italicum, L. Native in dry places in the Mediterranean region and locally common there in cultivated and waste ground. It has once been recorded in England from ballast in the county of Durham.

Echium violaceum, L. Native of meadows in South-East Europe, and distributed throughout Southern Europe in arable land. It is only known in England as a grain introduction.

[**Echium vulgare**, L. Native in Britain in rocky ground, dry banks, and clearings in woods. The species is usually recorded here and throughout Europe from artificial situations, such as hedge banks, walls, and cultivated fields.]

Heliotropium europæum, L. A weed of cultivated fields in many parts of Europe. Once recorded as a

ballast plant in Wales. It is perhaps a native of dry pastures in the Mediterranean region.

Lithospermum arvense, L. A weed of cultivated fields in England, becoming rarer northwards. It is said to be abundant in some parts of Southern Europe and Northern Africa, and reaches as far east as India. It is probably indigenous in the Orient, where it occurs in dry alpine pastures.

Lycopsis arvensis, L. Rather a common weed of cultivation in England and the Continent. It is native in Southern Europe, and has the appearance of being so on the coasts of England. It is, however, such a common weed that it is not safe to include it as a true native of Britain if it is absent as such in Mid-Europe.

Mertensia pulmonarioides, Roth. A native of North America introduced into cultivation in England, and rarely found as an escape from gardens.

Myosotis dissitiflora, Baker. A native of the mountains of Switzerland. Frequently grown in gardens in England, and occasionally recorded as an escape from cultivation. Sometimes probably recorded as *Myosotis sylvatica*—a species which it nearly resembles.

[**Myosotis versicolor**, Sm. A true native of dry heaths and pastures in England, though so often recorded in local Floras only from artificial habitats.]

Omphalodes verna, Moench. Indigenous in the mountains of Southern Europe. Long ago introduced

into horticulture, and occasionally recorded in England as naturalised near gardens.

[**Pulmonaria officinalis**, L. Native from England to Southern Russia. Plentiful in Belgian woods, and doubtless also in one or two spots in South-East England. It is, however, more common as an escape from cultivation.]

Symphytum asperrimum, Donn. A native of woods and bushy places in the Orient. It has been grown in England as fodder for cattle, and has thus come to be noticed and recorded in quasi-natural situations.

Symphytum orientale, L. A native of shady places in South-East Europe. Established in several places in England, perhaps, like *Symphytum asperrimum*, in consequence of its use as a fodder plant.

Symphytum tauricum, Willd. Native of shady places in the Orient. Established here and there in waste ground in England. It was possibly originally introduced as a fodder plant.

CONVOLVULACEÆ.

[**Convolvulus arvensis**, L. Native on the sandy hills of the Kentish coast, and probably in similar situations in other parts of our southern seaboard. It is very common as a weed in all kinds of cultivated ground, and is seldom recorded from any more natural situation.]

Convolvulus tricolor, L. Very common in cultivated places in the Mediterranean area. Cultivated in gardens in Britain, and sometimes recorded as an escape.

Cuscuta Epilinum, Weihe. Parasitic on flax in many parts of England. Doubtless originally imported when the flax industry was introduced.

Cuscuta planiflora, Ten. Native from the Mediterranean to the Himalayas. It has been found in England on cultivated *Melilotus*, being doubtless introduced with its host.

Cuscuta racemosa, Mart. Parasitic on various wild species in tropical South America. It has been noticed once or twice in England on Lucerne.

SOLANACEÆ.

[**Atropa Belladonna**, L. Native in woods in England and in most parts of Europe. It was anciently cultivated for medicinal use, and perhaps in most of its stations is a relic of such culture, but in the chalky and limestone woods of Southern England it is as undoubtedly indigenous as in similar situations in France, Holland, and Belgium.]

Datura Stramonium, L. De Candolle, after a very careful review of all the facts known to him bearing upon the subject, concluded that the species originated from the Caspian region, and that it was introduced into Europe at some time between the fall of the Roman

Empire and the discovery of America. It was probably early cultivated in Britain for medicinal purposes, and, though not in frequent cultivation now, it sometimes appears in plenty near towns and villages when the ground is disturbed. Its seeds have a remarkably long period of vitality, and, being abundantly produced, lie dormant until some favourable circumstance permits of their germination.

Hyoscyamus albus, L. A native of hot rocky situations in Southern Europe, and a weed of waste ground in most parts of the Mediterranean area. Further north, and in Britain, only rare and sporadic.

Hyoscyamus aureus, L. A weed of roadsides and waste ground in the Orient. Once recorded as a ballast plant from the Tyne.

[**Hyoscyamus niger**, L. Probably a true native of sand-dunes on the coasts of England and Wales, but far more common as a weed of waste ground about villages.]

Lycium barbarum, L. A native of the Mediterranean region. It has been frequently recorded from all parts of Britain as an escape near cottage gardens. All the specimens, however, which the author has been able to see from such localities are referable to *Lycium chinense*.

Lycium chinense, Mill. A native of China. Rather common as a garden escape in Britain.

Lycopersicum esculentum, Mill. A native of the New World. Much cultivated in England, and a com-

mon feature of waste ground in the neighbourhood of towns and villages.

Nicandra physaloides, Gaertn. A native of Peru. Now more or less naturalised in various parts of Europe. In England it has several times been recorded as a casual.

Nicotiana rustica, L. Cultivated in Central Asia and in tropical Africa, and naturalised here and there in Europe. In England it has been noticed as a sporadic weed in a few localities.

Physalis Alkekengi, L. A native of rich mountain pastures in the East and a rather common weed in some parts of Europe. A favourite garden plant in England under the name of Winter Cherry, and sometimes recorded as an escape from cultivation.

Solanum cornutum, Lam. Native of Mexico. Recorded once or twice in the neighbourhood of cornmills in England.

Solanum nigrum, L. A weed of such world-wide distribution that it is difficult to trace its natural area, if indeed it has ever been found in quite natural surroundings. In Britain it is a common and characteristic weed of waste ground, with no claim to be considered indigenous, unless further investigation proves it to grow naturally on shingles in some parts of the southern coasts of England.

Solanum rostratum, Dun. Several times recorded during the last few years from waste ground in Great

Britain. It seems to be spreading with some rapidity, as it is said to be doing in the United States also.

Solanum triflorum, Nutt. Native of North America. Once recorded from waste ground at Silloth in Cumberland.

SCROPHULARIACEÆ.

Antirrhinum Orontium, L. Its distribution as a native is limited to parts of the Mediterranean area in dry pastures. In Southern England and Wales it is frequent in cultivated ground, and it is known under the same conditions in most parts of the North Temperate Zone.

Antirrhinum majus, L. Native in dry stony places in the Mediterranean area. It is naturalised in many other parts of Europe, usually on old walls, and in most cases escaped from cultivation. In this state it is not uncommon in England.

Calceolaria glutinosa, Heer and Regel. A native of Guatemala which has been recorded as growing spontaneously in a garden at Norwich. It is a showy plant, and was probably introduced originally for horticulture.

Celsia cretica, L. A garden plant which has been recorded more than once as an escape. Native of the Mediterranean region.

Collinsia bicolor, Benth. Native of California. Collected by Mr. Hume on waste ground in South Devon. Doubtless a garden escape.

Erinus alpinus, L. A native of rocky places in the mountains of South-West Europe. Long cultivated for ornament in England, and occasionally more or less naturalised on old walls.

Linaria bipartita, Willd. A native of the seashores of the Mediterranean area and a weed of cultivated fields in Southern Europe. It has been recorded as occurring where pheasants' food has been thrown, and may have resulted from grain-siftings being used for this purpose.

Linaria canadensis, Dum. Cours. A native of North America which has been recorded from waste ground in England.

Linaria chalepensis, Mill. Noticed in several places near cornmills, and doubtless imported with foreign grain.

Linaria Cymbalaria, Mill. Found on old walls in nearly all parts of Europe, but apparently native on rocks only in the south. In England it is supposed to have originated in the Chelsea Botanic Garden, and it is at any rate probable that it dates its rapid extension in England from the time that it began to be cultivated in gardens—that is, about the same time as Dillenius mentioned its escape from the Chelsea Garden.

Linaria Elatine, Mill. A weed in cultivated ground in most parts of Europe. In England mostly in the

southern counties. The only possibly wild locality of which record can be found is in the south of Italy, where it is said to grow on the seashore.

Linaria parviflora, Desf. A weed of cultivated and waste ground throughout Europe. It has been recorded from waste ground in England.

Linaria Pelisseriana, Mill. A native of the south of Europe which has been recorded from waste ground in England.

Linaria purpurea, Mill. Native of the mountains of Southern Europe. Long known in cultivation in England, and now established in many places on old walls and in waste ground near towns.

Linaria spartea, Hoffm. and Link. A native of the Western Mediterranean region which appeared for several years in waste ground at Walton in Surrey.

Linaria spuria, Mill. A native of Southern Europe which has become common in some parts of the Continent as a weed of cultivated ground. As such it is fairly general in Southern England.

Linaria supina, Desf. A native of Central and South-West Europe, extending in sandy pastures as far north as Normandy. It might therefore have been expected as a native of Britain, but at present it has only been recorded from a few situations as a ballast plant.

Linaria triphylla, Mill. A cornfield weed of the

Mediterranean area. Once recorded on waste ground in England.

Linaria viscida, Moench. A native of rocky ground in Southern Europe, and a cornfield weed over a more extended area. In England it is chiefly a weed of waste ground, affecting especially such localities as cinder heaps near railway stations.

[**Linaria vulgaris**, Mill. Native in Britain in rough stony places, though seldom recorded except as a weed of cultivated ground and of roadsides.]

Melampyrum arvense, L. Probably wild in the south-east of Europe and the neighbouring parts of Asia. In England, as in most parts of Europe, it is an introduced weed of cultivated ground.

Mimulus Langsdorfii, Donn. A native of stream sides in Western North America. Cultivated in Europe since the beginning of the nineteenth century, and soon becoming a favourite in English gardens. Now abundantly naturalised, especially along the courses of streams in various parts of England.

Mimulus luteus, L. A native of North America. This is the usual name given by British botanists to *Mimulus Langsdorfii*, Donn. It has been cultivated in gardens, but the writer knows of no authentic record of it as a naturalised plant.

Mimulus moschatus, Dougl. A native of America. Long cultivated in English gardens. It is now found as an escaped plant here and there near gardens.

[**Rhinanthus major**, Ehrh. A native of woods and pastures from Southern England (Mr. Marshall tells me it grows in damp meadows in West Somerset), Normandy, and Belgium to Siberia. Elsewhere in England it has only been recorded as a non-permanent introduction in cultivated ground.]

Scrophularia canina, L. A native of dry hills in South Europe. The variety *pinnatifida* has been found on ballast at Cardiff.

Scrophularia vernalis, L. A native of wet bushy places over the greater part of Europe, reaching as far as Belgium. In England and Normandy it is only naturalised. The English records are all more or less associated with garden culture.

Verbascum Blattaria, L. Widely dispersed in the Old and New Worlds. Scattered irregularly in cultivated and waste places over the central and southern counties of England. It is of long standing in such situations, being on record as early as the seventeenth century.

[**Verbascum Lychnitis**, L. Native in dry pastures and woods in Southern England, as it is also in the northern part of the Continent. Over the greater part of its range in England it is, on the contrary, a mere casual in waste ground.]

[**Verbascum nigrum**, L. A native of wood-borders and broken hillsides in Southern England, as in Belgium and many other parts of Europe. It shows, however, in Britain a distinct tendency to occupy waste ground

around cultivated fields and villages, and, being most often recorded from the latter artificial situations, it is liable to be mistaken in all cases for a non-indigenous plant.]

Verbascum phlomoides, L. A native of dry hills in the greater part of Europe, and reaching nearly to the north coast. In England only known as a garden escape.

Verbascum phœniceum, L. A garden plant which has been recorded as an escape in England. A native of stony and sandy places from Central Europe to Siberia.

Verbascum pulverulentum, Vill. A native of rocky ground and gravelly river banks in Western Continental Europe. Over the same area it becomes a weed of waste ground and roadsides, and extends as such to South-East and Eastern England and to Southern Europe.

Verbascum thapsiforme, Schrad. A native of dry stony hills in Central and Southern Europe. Occasionally noticed as a garden escape in England.

[**Verbascum Thapsus**, L. A native of openings in woods, broken hillsides, river banks, and similar situations in Britain. Exceedingly common as a weed of artificially disturbed ground.]

Verbascum virgatum, Stokes. A native of dry hillsides in Central Europe. Cultivated in English gardens, and frequently found as an escape near them. It is averred by some experienced British botanists that it is a native on rough banks in Devonshire and

Somerset, but this cannot be confirmed without more precise information than is at the writer's disposal as to its habitats in England and Northern Europe.

Veronica agrestis, L. Native in the mountains of the Mediterranean region. It is not on record from natural situations in Northern Europe. In England it is not uncommon in cultivated and waste ground.

Veronica arvensis, L. Native of the Mediterranean area, and exceedingly common in some parts of that region. Abundant in Britain as a weed of cultivated and waste places.

Veronica campylopoda, Boiss. A cornfield weed in Eastern Europe. Recorded in England as introduced with barley from Turkey.

Veronica Chamæpitys, Griseb. Observed in England as a grain introduction from Turkey.

Veronica crista galli, Stev. An Oriental species which has been cultivated in gardens, and is known as an escape more or less established in a few localities.

Veronica didyma, Tenore. Native in dry pastures in the Mediterranean region. In Britain a not uncommon weed of cultivated and waste land.

Veronica fruticulosa, L. A native of alpine rocks in Southern Europe. Noticed as a garden escape on walls in Edinburgh.

Veronica glauca, Sibth. and Smith. A native of South-East Europe, communicated by Mr. Fraser Robinson among casuals from Hull.

[**Veronica hederæfolia**, L. A native in open hilly pastures in England, though very seldom recorded in these or any other natural habitats. It is a common plant of cultivated and waste ground.]

Veronica peregrina, L. A North American species which has been recorded as a weed in gardens in England.

Veronica repens, DC. Native of the alpine pastures of Spain and Corsica. Once recorded as a weed in nursery ground in Yorkshire.

Veronica Tournefortii, G. C. Gmel. A native of dry pastures in South-East Europe which has spread, apparently in quite recent times, over the rest of Europe as a weed of cultivated ground. Although first recorded in Britain no earlier than 1829, it is now, especially in the south, a common plant.

OROBANCHACEÆ.

Orobanche ramosa, L. This species has occurred in hemp crops in England, having been doubtless introduced with its host. The type is apparently unknown, except on cultivated crops, but the variety *Muteli* is more common in the Orient than the type, and grows on wild *Compositæ*.

ACANTHACEÆ.

Acanthus mollis, L. A native of Southern Europe, which has been a favourite garden flower in England and has been observed in an apparently wild state near Penzance and in the Scilly Isles. Doubtless in both cases of garden origin.

VERBENACEÆ.

Verbena hastata, L. A native of North America. Recorded as a casual in England.

Verbena officinalis, L. The confinement of this species to the neighbourhood of roads and houses prevents its acceptance as a native of England or of Northern Europe. It appears to be a native of dry pastures in the Mediterranean region, being introduced both further north and also into the tropics to the south.

Verbena supina, L. A native of damp sandy places in Southern Europe and the Orient. Recorded once from the well-known colony of aliens at Wandsworth in Surrey.

LABIATÆ.

Ajuga Chamæpitys, Schreb. It extends, as a weed of cultivated ground, from England to Asia Minor. It is

nowhere known under natural conditions. Its very near ally, *Ajuga Chia* (differing only in the size of the flowers and in degree of hairiness), is a native of the south-eastern corner of the above region, and it is possible that the former species may have originated from the latter as a modification especially adapted to agricultural conditions.

Ajuga Iva, Schreb. A cornfield weed of Central and Southern Europe and the East. A grain introduction in England.

Ballota nigra, L. A native of the Mediterranean region and Western Asia. In England and most of Europe it is a weed of hedges and waste places, showing a preference for the neighbourhood of human habitations.

Calamintha graveolens, Benth. A casual in several situations near cornmills, or where the siftings of corn have been thrown.

Elsholtzia cristata, Willd. A weed of cultivation in Northern Continental Europe which has been noticed as a casual in waste ground near London.

[**Galeopsis Ladanum**, L. A native of dry stony places in the greater part of Southern Europe, becoming more rare in this condition northwards, and only found as an obvious native in Britain on shingles, and in a few other such places in Southern England. It is, however, common in cultivated fields both here and on the Continent.]

Galeopsis ochroleuca, Lam. A cornfield weed in the east of England. It is recorded in natural habitats in Belgium, but seems to be uncommon in Europe, except as a weed.

[**Galeopsis Tetrahit**, L. Native in England in woods, but much more common as a weed of cultivated and waste ground, and usually recorded from such localities.]

Galeopsis versicolor, Curt. Native of dry stony places in Southern Europe. In Northern Europe, including England, it is a cornfield weed.

Hyssopus officinalis, L. An old garden plant in England which has been found as an escape from cultivation. Sometimes thoroughly naturalised.

Lamium album, L. Native in woods and forests from Spain and Morocco to Siberia and the Himalayas. Also a weed about villages, roadsides, and waste places throughout most of the North Temperate Zone. In England it is a common plant in the latter kind of situations. For a fuller discussion of the "Origin of the Dead Nettles in Britain" see the *Journal of Botany*, 1902, p. 360.

Lamium amplexicaule, L. It extends over the whole North Temperate Zone of the Old World, including England, but only as a weed of cultivated and waste ground. It is nowhere recorded from native situations, but may perhaps be an adaptation of *Lamium macrodon* (a native of the cedar forests of Asia Minor) suited to agricultural conditions.

Lamium bifidum, Cyr. Native of woods in South-East Europe and a weed of cornfields in the neighbouring regions. Once recorded as growing plentifully in a cornfield in Yorkshire.

Lamium intermedium, Fries. A weed of cultivated ground in North-West Europe, including Northern Britain and Northern Ireland.

Lamium lævigatum, DC. Native of the mountains of Southern Europe. In Britain recorded as an escape from gardens.

Lamium maculatum, L. A native of woods from Persia to Southern Belgium. Much cultivated in Britain, and often found near gardens in a quasi-naturalised state.

Lamium purpureum, L. A weed of arable land, roadsides, and waste ground over the whole of Europe, Northern Africa, and Western Asia. It is difficult to determine whether it is truly native in any part of this area. No record can be found of its appearance in any perfectly natural locality, at any rate in England.

Leonurus Cardiaca, L. Not recorded in England, except in the immediate neighbourhood of gardens where it is cultivated. In Southern Europe it seems less dependent upon actual cultivation, but nowhere can a native record be found.

Leonurus Marrubiastrum, L. A native of Eastern Europe and Northern Asia. A casual in the neighbourhood of Hull Docks.

Marrubium Alysson, L. Native of the Mediterranean region. Once recorded in connection with many other grain-sifting aliens near Oulton Broad in Norfolk.

[**Marrubium vulgare**, L. A native of downs on calcareous soil in England. Much grown in old times, and still grown to a smaller extent in cottage gardens, under the name of *Horehound*. It is now a frequent naturalised weed by roadsides and waste ground.]

Melissa officinalis, L. A native of woods in the Mediterranean area. Much and long cultivated in British cottage gardens, and sometimes occurring as a garden escape.

[**Mentha alopecuroides**, Hull. A rare plant in the British Isles, and frequently under suspicion of being a garden escape, the species being sometimes used as a substitute for *Mentha viridis*. There can be little doubt, however, that it is a true native in the eastern counties.]

[**Mentha arvensis**, L. According to written records it is almost confined to cultivated and waste ground in England. It is certainly native, however, in damp meadows and by river sides, though much less common in these than in artificial situations.]

[**Mentha piperita**, L. The commonly cultivated Peppermint. A frequent escape from cultivation. It is confidently recorded as a native in several English counties, and there seems no external evidence to throw doubt upon the statements.]

Mentha Requieni, Benth. A native of the south of Europe. Recorded as a garden escape in England.

[**Mentha rotundifolia**, Huds. Undoubtedly native in damp pastures in England, but perhaps more frequent as an escape from cultivation in the neighbourhood of villages.]

Mentha sylvestris, L. Always suspected as a relic of cultivation in England. Its habitats are usually natural ones, and its undoubted native range reaches Belgium, so that there is nothing to throw doubt on its nativity except the general consensus of opinion of the actual observers.

Mentha viridis, L. A native of Europe, but in the British Isles always an escape from cultivation.

[**Nepeta Cataria**, L. Usually a plant of hedges and dry field-borders in Britain. It has apparently never been observed growing under quite natural conditions except on bushy ground in a few localities on calcareous soil in Southern England.]

Origanum Onites, L. A native of the hills of the Eastern Mediterranean area. Observed as a casual in England. Doubtless an escape from cultivation.

Phlomis fruticosa, L. A native of the dry stony hills in the east of the Mediterranean region. It has been planted in many localities in shrubberies and ornamental grounds, and, becoming naturalised, has come to be recorded as a quasi-wild garden escape.

Salvia bicolor, Lam. A native of the dry hills of Spain and Northern Africa. Recorded in waste ground at Silloth in Cumberland by Dr. Leitch.

Salvia controversa, Ten. Native in the pastures of Southern Europe. Found as a casual near the West Docks at Hull by Mr. Fraser Robinson.

Salvia glutinosa, L. A native of shady woods in Southern Europe. Recorded once or twice as a casual in waste ground in England.

Salvia Horminium, L. A weed of cultivated ground in the Mediterranean region. Twice recorded in England in connection with grain introductions.

Salvia nemorosa, L. A South European weed. On record as a weed of waste ground in Britain.

Salvia officinalis, L. Native among rocks in the mountains of Southern Europe. Occasionally recorded as a garden escape in Britain.

[**Salvia pratensis**, L. A native of Europe, becoming very rare towards the north. That it is native in Belgium, Normandy, and England in dry pastures cannot be doubted, but most of its records in the latter country are as a garden relic.]

Salvia sylvestris, L. A weed of waste ground in Southern Europe which has been recorded several times in the neighbourhood of docks, cornmills, &c., in Britain.

Salvia verticillata, L. A native of mountain pastures in the Mediterranean region. Rather frequently recorded on waste ground in England.

Salvia viridis, L. A native of dry stony ground in the Mediterranean region. A weed of cultivation in Southern Europe which has been noticed as a grain introduction in England.

Satureia hortensis, L. A native of the Mediterranean region. A garden plant. Occasionally noticed as an escape.

Sideritis montana, L. A weed of cultivated fields in Southern Europe. Often noticed as a grain introduction in England.

Stachys annua, L. A native of dry pastures in the Mediterranean region and a weed of cultivated and waste ground in most parts of the Continent of Europe. It is rare in England.

Stachys arvensis, L. Native of dry sandy situations in the Mediterranean region. Not uncommon as a cornfield weed in Europe, including England.

Stachys germanica, L. A native of dry hilly pastures from the east of Europe to Belgium. In England it is rare, and probably always of garden origin.

Stachys italica, Mill. Native of stony places in Southern Europe. Once recorded on ballast at Cardiff.

[**Teucrium Botrys**, L. A native of dry stony pastures from England and France to Russia. It has been

relegated by some to the status of an introduction in England, because its habitats are in the neighbourhood of cultivated fields. It grows, however, naturally on rough stony ground in a few scattered localities in the southern counties, just as it does more abundantly in Normandy and Belgium.]

Teucrium Chamædrys, L. A native of dry stony hills on the Continent of Europe, reaching Normandy and Belgium. It is only known in England on old walls and similar situations near houses, and would appear, therefore, to be an escape from cultivation.

Wiedemannia orientalis, Fisch. and Mey. A cornfield weed of Europe. Recorded as a grain introduction in England.

Ziziphora clinopodioides, Lam. A native of the mountains of Asia Minor, long cultivated in gardens in England, and noticed as an escape near Penzance, in Cornwall.

PLANTAGINACEÆ.

Plantago arenaria, Waldst. and Kit. Native of sandy pastures in the Mediterranean area, and widely spread throughout the rest of Europe in waste ground. In England it has been found sometimes abundantly, and apparently well established in sandy waste ground.

Plantago Lagopus, L. Native of rough pastures in the Mediterranean area, and a weed of cultivated ground throughout Southern Europe. Several times

recorded in connection with grain-sifting aliens in Britain.

Plantago Psyllium, L. A native of the seashores of many parts of Europe, but only known in England as a rare weed of waste ground. Though not common, it has long been known as a casual, being recorded by Miller in 1759 (Britten, in *Journal of Botany*, 1900, p. 328).

Plantago virginica, L. A native of sandy ground in North and South America. Recorded by Mr. Brotherson near Galashiels, Selkirk, where it was believed to be a wool introduction.

ILLECEBRACEÆ.

Herniaria cinerea, DC. Native of sandy places in South-West Europe and an abundant weed in sandy cultivated ground in some parts of the Mediterranean area. A few plants occurred among grain aliens from Turkish barley at Twerton, near Bath.

Herniaria hirsuta, L. A native of sandy pastures in Europe extending to Normandy and Belgium. It may also be native in England, but its only records so far seem to be from waste ground.

AMARANTACEÆ.

Amaranthus albus, L. A native of sandy ravines in the Southern United States, first recorded in Europe a century ago. A rare casual weed in England.

Amaranthus Blitum, L. A rare casual in England. Commoner on the Continent. Native in the Orient.

Amaranthus chlorostachys, Willd. A native of North America which occurs rarely as a waste ground weed in Europe, and has been once recorded in England.

Amaranthus deflexus, L. An American species. Widely naturalised in the Mediterranean region. Once recorded as a casual in Yorkshire.

Amaranthus retroflexus, L. A native of the prairies of the Southern United States. It was known as a garden plant in England in 1759 (Miller's *Gardener's Dictionary*), and was in the Kew collection in 1769. It soon became naturalised, and spread rapidly as a garden and field weed during the early part of the nineteenth century. It is now very common in most parts of Europe, including England.

CHENOPODIACEÆ.

Atriplex hortensis, L. A native probably of Turkestan much cultivated in Europe. Found in England, not infrequently, as an escape from cultivation.

Atriplex nitens, Schkuhr. Its native country is not known, unless Lessing's report of it from pastures in the Kirghiz Steppe (*Linnæa*, vol. ix. p. 203) indicates an

indigenous habitat. It is grown as a garden plant in England, and has been noticed as an escape.

Atriplex patula, L. In its widest sense a native of seashores in Great Britain, but much more common as a weed of cultivated and waste ground.

Atriplex rosea, L. Native of the shores of the Mediterranean and the banks of some of the larger rivers of Europe, and a common cornfield weed in some countries. It has been observed a few times in England, apparently in connection with grain aliens.

Atriplex tatarica, L. A native of the seashores of the Mediterranean region and a weed of cultivated fields in some parts of Europe. Once recorded as a grain introduction in England.

Beta trigyna, Waldst. and Kit. Recorded by Mr. Druce in two or three localities in Berkshire, where it may have been imported with grain or with agricultural seed.

Beta vulgaris, L. Native of the seashores of Europe and North America. Cultivated from very early times, and frequently recorded as a relic of cultivation.

Blitum virgatum, L. Native in sandy places in Southern Europe and Western Asia. Also a weed of cultivated ground in many parts of Europe. In England rare, and only as a garden stray or as a grain introduction.

Chenopodium album, L. Very widely distributed in Britain and in the rest of the North Temperate Zone as a weed of cultivated and waste places. It has not been recorded, so far as the writer can trace, in any country in natural habitats.

Chenopodium ambrosioides, L. According to De Candolle, a native of Mexico. Introduced into South-West Europe in the seventeenth century, and now thoroughly naturalised there in sandy fields. It is also very widely spread in other regions. It has been noticed in a few waste ground localities in England.

Chenopodium aristatum, L. Native of Northern Asia and a weed of many other parts of the world in sandy ground. Recorded by Mr. Davey near Penzance, in Cornwall.

Chenopodium Bonus Henricus, L. Possibly native in the high mountains of Southern Europe. In Northern Europe, including England, it is always associated with human dwellings, and is doubtless in many cases a relic of cultivation.

Chenopodium Botrys, L. A native of seashores and river banks in Central and Southern Europe, Northern Africa, and other regions. It has long been cultivated in England, and is on record as a rare casual in waste places.

Chenopodium ficifolium, Sm. A weed of roadsides and waste places, about villages, and in cultivated ground over a wide range, including England. It is now frequent in the south-eastern counties, and appears to be spreading rapidly.

Chenopodium glaucum, L. A weed of cultivated ground, roadsides, and waste places in the greater part of Europe, including the eastern counties of England.

Chenopodium hybridum, L. A native of South-East Russia, in woods and on rocky ground. In the rest of Europe, including the southern counties of England, it occurs only in cultivated and waste ground.

Chenopodium leptophyllum, Nutt. A native of North America. Once recorded by Mr. Hume as a casual in the neighbourhood of Par Harbour.

Chenopodium murale, L. It extends over most of Europe and as far east as Arabia. Mr. Marshall considers it to be native on the beaches of Kent, Sussex, and Dorset. If so, its distribution as an indigenous plant has been strangely overlooked, for no statement can be found in British or foreign Floras of any native habitat for the plant. Until more attention is paid to the exact environment of the species in different parts of its range, it will perhaps be better to class it among homeless plants.

Chenopodium opulifolium, Schrad. A rare weed of roadsides and waste ground in England. In similar habitats it extends from Europe to Turkestan.

[**Chenopodium polyspermum**, L. A native in damp woods in the south of England and from Western France to Southern Russia, though in most local Floras throughout its range it is recorded only from waste and cultivated ground. Its generic connection with so

many weeds of waste ground has perhaps caused it to be overlooked as indigenous in some countries.]

[**Chenopodium rubrum**, L. Rather a common casual in waste places in England. It occurs more rarely as a native on muddy shores.]

Chenopodium urticum, L. A rare weed of cultivated and waste ground in England and the greater part of Europe. Nowhere recorded from native habitats.

[**Chenopodium Vulvaria**, L. It extends from the extreme north of Europe to Northern Africa and Syria, and is throughout this area recorded only from roadsides and waste places, except on the shores of Southern England and Guernsey, where it seems to be indigenous on pebbly beaches.]

Corispermum hyssopifolium, L. A casual near the West Docks at Hull. Native in Southern Europe, Asia, and America.

Roubieva multifida, Moq. A South American plant naturalised here and there in Southern Europe, and once recorded in England as a casual at Gloucester.

Spinacia oleracea, L. Much cultivated in England, and occasionally noticed as an escape, or relic of cultivation.

Suæda altissima, Pall. A casual near the West Docks, Hull. Native of Southern Europe.

POLYGONACEÆ.

Fagopyrum esculentum, Moench. Apparently a native of Manchuria. In Britain a frequent casual about towns and villages, and even in woods where game is preserved, in consequence of its use for bird-seed.

Fagopyrum tataricum, Gaertn. Native of Northern Asia. Occasionally recorded as a weed in cultivated ground in Britain.

Polygonum arenarium, Waldst. and Kit. Native of dry hills from Central Europe to Siberia, and a common cornfield weed in some parts of that district. Recorded in Britain as a grain introduction.

Polygonum arifolium, L. Once recorded in Britain on imported garden soil. A native of Asia.

[**Polygonum aviculare**, L. Invariably recorded in local British Floras as a weed of cultivated and waste ground. Though more common in such situations, it undoubtedly occurs as part of the native vegetation of the seashore of Britain, as well as on sandy heaths, and such-like natural habitats inland.]

Polygonum Bellardi, All. Once recorded by Mr. E. G. Baker as a casual near Limerick, in Ireland. A native of the Mediterranean region, Siberia, and India.

[**Polygonum Convolvulus**, L. It has been stated that this is an Asiatic species occurring only as a weed of cultivated and waste ground in Europe. As, however,

it occurs in England and Belgium in woods and bushy places (especially as the variety *Pseudo-dumetorum*), there seems no good reason to exclude it from our native list.]

Polygonum corrigioloides, Jaub and Spach. Recorded as a grain introduction in one or two localities. Native of Persia.

[**Polygonum lapathifolium**, L. A native in marshes and on river banks in England, but in the great majority of Floras mentioned only as a weed of cultivated and waste ground.]

[**Polygonum Persicaria**, L. The same remarks apply to this species as to *P. lapathifolium*. The plant is common in natural habitats.]

Rumex alpinus, L. A native of grassy places in the mountains of Southern Europe. Formerly cultivated in Britain for its roots, which were apparently used medicinally. It is now occasionally found in waste ground about villages.

[**Rumex crispus**, L. A very common weed of roadsides, field-borders, and other waste ground; also not uncommon in natural habitats such as seashores, glades in woods, and naturally broken ground, though seldom so recorded.]

Rumex dentatus, L. A weed of cultivated fields from the Eastern Mediterranean area to Northern India. Occasionally recorded in England as a grain introduction.

[**Rumex obtusifolius**, L. A very common weed of waste ground and roadsides, but, like *Rumex crispus*, truly a native in naturally disturbed ground, though seldom so recorded.]

Rumex Patientia, L. A native of alpine meadows in the Orient. The species has been cultivated in England, and has been recorded in a half-wild state near habitations.

Rumex pulcher, L. It has every appearance of being wild in English pastures, but on the Continent it is only recorded from roadsides and cultivated ground. De Candolle considered that it became established in Europe in modern times, and that its native country was in Asia. Considering the small amount of attention which has been paid to exact habitat in European Floras, it is quite possible that the species may really be native on the Continent, but British botanists would hardly seem justified in claiming it as a native until more careful examination confirms its indigenous condition on the other side of the Channel.

Rumex scutatus, L. A native of rocky ground from Belgium and Central France to the Orient. In England only recorded from old walls near houses, in the gardens of which it had probably been cultivated.

ARISTOLOCHIACEÆ.

Aristolochia Clematitis, L. A native of Western Asia. Cultivated from ancient times in Europe, and

now naturalised in many places, being a common weed in some of the warmer parts of the Continent, but confined in England to hedges and old walls near gardens where it has been cultivated.

[**Asarum europæum**, L. Native of woods in Europe. It has been recorded from various parts of Britain, occasionally in woods, but usually as a more or less obvious escape from gardens, but, as it is undoubtedly native in Northern France, Belgium, and Holland, its few natural habitats may be accepted.]

THYMELÆACEÆ.

[**Daphne Mezereum**, L. Native in England and Wales in woods, as it is also in Normandy and Belgium. Mr. H. C. Watson noted that the seeds of this species are often sown by robins from cultivated bushes, but this need throw no doubt on its native state in the absence of adverse geographical evidence.]

EUPHORBIACEÆ.

[**Buxus sempervirens**, L. Native in the woods of Normandy, Belgium, and Holland. In England there are a few localities, notably Box Hill in Surrey, where the tree grows plentifully and naturally, and there seems no reason to doubt its being as truly native here as in the rest of Northern Europe. A great deal has been written both for and against its nativity in

Britain, but the plain facts of its present circumstances are perhaps the most satisfactory evidence that can be obtained. It is also frequent in Britain as a garden relic.]

Euphorbia Characias, L. A native of woody districts in the Mediterranean region. There are old records of the plant from Worcestershire and Staffordshire. If the identification was correct, the plant was certainly an introduction.

Euphorbia coralloides, L. A native of shady woods in Italy. Recorded from Slinfold, Sussex, by Borrer, in 1837. Doubtless an introduction.

[**Euphorbia Cyparissias**, L. Native of dry hilly pastures from Southern England, Normandy, Belgium, Sweden, and Russia to the south of Europe. It has been recorded from several English counties as a garden escape. The only natural locality is on the downs near Dover.]

Euphorbia dulcis, L. Native in woods and bushy places from Normandy and Belgium to the Mediterranean Sea. It is on record from two localities in Scotland, where it was presumably of garden origin.

Euphorbia Esula, L. Native of woods and meadows in Central and South-East Europe, becoming rarer north-westwards. It is one of those species which extends rapidly along roads and railways, being found in these situations in Belgium, England, and Scotland.

[**Euphorbia exigua**, L. Rather a common weed of cultivated ground over the whole of Europe and the Orient. In England it appears to be a native, at least in Surrey, where it occurs (so Mr. Marshall tells me) in newly cut copses and on sandy heaths, and, as I have myself often observed, on the chalk downs. These are the only records known from natural situations, but perhaps further investigation will show the species to have a wide native range.]

Euphorbia helioscopia, L. A weed of cultivated and waste ground over the whole of Europe, and nowhere recorded in natural habitats. Mr. Reid's discovery of its seeds in interglacial deposits in England suggests that it may once have been native in Northern Europe.

[**Euphorbia Lathyris**, L. Native in stony woods in Southern England, appearing after the brushwood is cut. It is much more common, however, as a weed of gardens, cultivated and waste ground, in Western Europe—probably the result of its former extensive cultivation.]

Euphorbia Peplus, L. A weed of cultivated ground throughout Europe. Common in England.

Euphorbia platyphyllos, L. A weed of cultivated and waste ground throughout Europe, but nowhere throughout this area recorded as a native. Not common in England.

Euphorbia prostrata, Ait. A native of tropical and sub-tropical America and Africa. Recorded by Mr.

Whitwell (*Journal of Botany*, 1898, p. 32) from cultivated ground in Hampshire.

Euphorbia salicifolia, Host. Native of meadows from Southern Germany to Southern Russia. Said to be naturalised in one or two localities in Britain.

Mercurialis annua, L. Apparently native in woods in Southern Europe. In other parts of Europe only recorded from cultivated and waste ground. In Britain, especially in the south, it is locally common in such situations.

URTICACEÆ.

Cannabis sativa, L. Of very wide cultivation from prehistoric times in the Old World. One of those weeds in England which, though nowhere established, is yet common from the continuous introduction of its seeds for feeding birds and other domestic uses.

[**Humulus Lupulus**, L. Certainly indigenous in woods in England and Wales, as it is also in the neighbouring parts of the Continent. Its frequent cultivation often causes it to appear about arable and waste ground.]

Parietaria officinalis, L. Nowhere in Northern Europe is this species recorded from natural situations, though in Southern Europe and in the East it is recognised as native on rocks. In England it is very

common on old walls, but it has also been observed by the writer on rocks in Somerset, and perhaps when more attention is turned to the precise status of such plants it may be found in similar situations in other parts of Northern Europe. Pending such time it is more prudent to class it among introductions.

Ulmus campestris, L. Very common as a hedge-row tree in England. It rarely ripens its seeds, has no vernacular name, and shows other signs of being an introduction. It is native on the Continent.

[**Urtica dioica**, L. This plant is now so widely distributed in the North Temperate Zone, and is so extremely common in waste and cultivated ground in England, that it is difficult to determine which of its apparently wild habitats, if any, are reliable evidence of its indigenous state. The mere fact, however, that it grows plentifully about the homes of such wild mammals as still survive in England seems to place its native status beyond the possibility of criticism.]

Urtica pilulifera, L. A common weed of cultivated and waste ground in some parts of Europe. Its popular name of Roman Nettle suggests that it was introduced in the time of the Romans. It has certainly been known from the earliest botanical times, but never under conditions that could suggest its being native.

Urtica urens, L. A common weed of cultivated and waste ground in Europe, including England. Its origin is uncertain.

CUPULIFERÆ.

[**Carpinus Betulus**, L. A native of the south-eastern counties of England, and perhaps in a few places further north and west, but far more common in England, Scotland, and Wales as a planted tree.]

Castanea sativa, Mill. Native in woods in the North Temperate Zone. A native of England in pre-historic times (H. N. Ridley, *Journal of Botany*, 1885, p. 253), but extinct as such now. It is widely planted, and has been cultivated in England for many centuries. It seldom ripens seed, and is nowhere established.

[**Fagus silvatica**, L. Julius Cæsar's statement that the Beech did not occur in Britain, taken in conjunction with the wide cultivation of the tree, has induced some botanists to reject it as a native. In the southern counties, however, and as far north as Yorkshire, there seems no reason to doubt that the fine Beech woods are truly indigenous. This would not be the only point in the natural history records found in Cæsar's writings which has been refuted by later investigation. Such a statement as the one quoted would certainly be received with great hesitation even if made by a competent botanist unless he had a full knowledge of the country. It may be mentioned, moreover, that Beech wood has been recognised in recent geological strata in England, and that the tree is received as a native in the neighbouring parts of the Continent.]

Juglans regia, L. Native in woods from the Caucasus to India. In recent geological times its range reached and included England, but now it is only known as a cultivated tree.

Populus alba, L. Native of damp woods in Central and Southern Europe. There seems to be a general impression among botanists in England, Normandy, and Belgium that it is nowhere indigenous in those countries. It is widely planted, and is common in many parts of England along river banks and other wet places. It would probably be difficult to prove its exotic origin, but until its situation in Northern Europe has been carefully re-examined it should not be admitted to our native list.

Populus balsamifera, L. A native of the borders of swamps and rivers in North America. It is rather frequently planted in England, and it is occasionally recorded from semi-wild situations.

Populus monilifera, Ait. A native of the margins of lakes and streams in North America. It is occasionally planted in England, and rarely noticed as an escape from cultivation.

Populus nigra, L. Native of Central and Southern Europe. A commonly planted Poplar in England, Belgium, and Normandy. As in the case of *Populus alba*, until its whole position in Northern Europe is carefully considered it should be treated as an introduction.

Populus pyramidalis, Salisb. A widely cultivated tree. Not uncommon in England, but only as a planted tree.

Quercus Cerris, L. Native of mountain woods in the Mediterranean region. Much planted in England, and sometimes self-sown, and having a wild appearance.

Quercus Ilex, L. Indigenous in the Mediterranean region. Long cultivated in England, sometimes self-sown, and thus taken for a naturalised tree.

SALICACEÆ.

[**Salix alba**, L. A rare native in England. As an introduced plant it is common, and easily becomes naturalised along streams, in which places it assumes the appearance of a true native, and it cannot be proved that it is not indigenous in some of its wildest stations, as it is moreover recognised to be such in the rest of Northern Europe.]

Salix babylonica, L. A native of Asia from Persia to Japan. Much cultivated in England, and in some situations having the appearance of a naturalised plant.

Salix daphnoides, Vill. A native of river banks from Belgium to Siberia, but at present only recorded as a cultivated osier in England.

[**Salix fragilis**, L. Like *Salix alba*, hardly free from doubt in any situation in Northern Europe because it has been so frequently planted, but, like *Salix alba*, the evidence, either geographical or otherwise, against its native status is not sufficient to exclude it from the British native list. It is true, as Mr. Murray points

out, that its close intermixture with *Salix alba* in South-West Asia points to the nativity of both in that region, but this does not militate against its indigenous condition in other places. Remains of its wood have been found in recent geological formations in Europe.]

[**Salix pentandra**, L. Mr. Marshall, whose knowledge of the British willows is wide and accurate, tells me that this tree is native in the north of Britain and in Ireland, but only planted in the south of England.]

[**Salix triandra**, L. Although the species has been doubted as a native in England, the writer cannot discover any valid objections to its native range, which covers Northern and Central Europe, being considered to extend to this country.]

CONIFERÆ.

Larix europæa, DC. A native of the Alps of Southern Europe. Cultivated in England since the seventeenth century, and now semi-naturalised in some places.

Pinus excelsa, Vill. A native of the Himalayan region. Seldom seen out of parks and gardens, and then only where planted.

Pinus Laricio, Poir. A native of South-East Europe. Much planted for ornament in Britain, but seldom giving the impression of being naturalised.

Pinus Pinaster, Soland. A native of Southern Europe introduced into England in the sixteenth century, and now abundantly naturalised near Bournemouth and in one or two other places.

[**Pinus sylvestris**, L. An undoubted native of Great Britain in recent geological times, probably forming large forests. Whether any of the Scotch pines growing now are descended from the wild stock must always remain doubtful, but, as it is undoubtedly native in other parts of Northern Europe, it may be allowed the benefit of the doubt and a place among the rarer natives of Britain. The tree has been abundantly planted in all parts of the islands.]

HYDROCHARIDACEÆ.

Aponogeton distachyon, Thunb. A South African aquatic, often grown in England in ornamental ponds, whence it occasionally escapes into wild-looking situations.

Elodea canadensis, Michx. Native of North America. It seems to have been first observed between the years 1842 and 1847 near Bewick, near Market Harborough, and in Cambridge. From these centres, and perhaps from others unrecorded, it spread with extraordinary rapidity over the whole of Britain. It is now showing signs of decrease, perhaps in consequence of its long dependence (in the absence of the male plant) upon vegetative reproduction.

[**Stratiotes aloides**, L. It has been recorded in many parts of England, in ditches, canals, and backwaters of rivers, and as it occurs on the Continent in similar situations, there is no reason to doubt its indigenous state. In Scotland and Ireland, however, there can be little doubt that all the stations recorded for the species are due to introduction, though it now appears quite naturalised in them.]

IRIDACEÆ.

Crocus aureus, Sibth. and Sm. A native of meadows in South-East Europe. Recorded as a garden relic in a few situations in England.

Crocus biflorus, Mill. Native of meadows in Southern Europe. Once or twice observed in Suffolk in a semi-naturalised state about old parks and gardens.

Crocus nudiflorus, Sm. Native in meadows of Southern Europe and the Orient. Absent, at least as a native, in Northern France, Belgium, and Holland. In England it appears to be naturalised in meadows in the midland counties, near gardens and villages.

Crocus sativus, L. Several forms are said to be wild in the mountains from Italy to Kurdistan. It has long been cultivated in England, and has been observed as an established plant in meadows near places where it has been cultivated.

Crocus vernus, All. Native of meadows of Southern and parts of Mid-Europe. Absent as a native further north. Recorded as a relic of cultivation, sometimes more or less naturalised, in various parts of England.

Gladiolus communis, L. Native from Southern France to Persia. Much cultivated in England, and occasionally recorded as a garden stray.

Gladiolus illyricus, Koch. A native of dry mountain heaths in South-West Europe. Unknown as a wild plant in Northern France. Supposed to have been introduced in its New Forest station in Hampshire. It was first recorded there in 1857.

Iris germanica, L. Native of damp rocky hills in Southern Europe. Widely cultivated in England, and sometimes recorded as an escape near gardens.

Iris pumila, L. Native of sandy meadows in Southern Europe. Long under cultivation in Britain. An occasional garden escape.

Iris tuberosa, L. A native of dry hills in the Mediterranean area. Often cultivated in England, and recorded in a naturalised state in Cornwall and South Devon.

Iris xiphioides, Ehrh. Native of meadows in South-West Europe. Much cultivated in England, and sometimes becoming naturalised near gardens.

Iris Xiphium, L. Native of sandy situations in South-West Europe. Long cultivated in English gardens, and once or twice recorded as semi-naturalised.

Sisyrinchium angustifolium, Mill. In the *Journal of Botany*, 1882, p. 8, Mr. More mentions three localities in Ireland in which this species has been found—in one undoubtedly introduced. It is a native of North America.

Sisyrinchium californicum, Dryand. Native of Western North America. Discovered in an apparently natural situation near Wexford in Ireland by the Rev. E. S. Marshall in 1896. It must be regarded as an introduction until further facts transpire to counter-balance the weighty geographical evidence against its nativity.

AMARYLLIDACEÆ.

[**Galanthus nivalis**, L. Native in Northern and Central Europe including Belgium, Normandy, and England. In the latter country, however, its records are, in the great majority of cases, accompanied by expressions of doubt as to its native status. It has been a favourite garden plant for many centuries in England. As, however, the few spots in which it appears to be perfectly natural are in uninterrupted connection with its main range, its claims to a place in our native Flora should not be denied.]

[**Leucojum æstivum**, L. Like the Snowdrop, this species is frequently recorded in England under suspicious circumstances, being much cultivated in gardens. Occasionally, however, it appears to have

been observed in natural habitats, and as its undoubtedly native range includes Northern Continental Europe, it may be considered a rare native of Britain also.]

Leucojum pulchellum, Salisb. A native of the Mediterranean region, grown in English gardens, and occasionally observed as an escape.

Leucojum vernum, L. Native of wet meadows and woods in Central Europe, reaching as far as Belgium. In England only recorded in Dorsetshire, where it is considered to be an escape from garden culture.

Narcissus biflorus, Curt. Native of the Mediterranean region. Much grown in gardens in England, and frequently recorded as a naturalised plant in orchards, meadows, and woods near villages.

Narcissus Bulbocodium, L. Occasionally recorded as an escape from gardens in England. Native of South-West Europe.

Narcissus incomparabilis, Mill. A native of Southern Europe. Long cultivated in England, and occasionally naturalised near gardens.

Narcissus poeticus, L. A native of mountain meadows in Central and Southern Europe. It has long been a favourite flower in English gardens, and has often been recorded as a naturalised stray from cultivation.

Narcissus serratus, Haw. A garden plant which has been found in a semi-naturalised state in Middlesex.

Narcissus Tazetta, L. A native of the Mediterranean region. Found as a garden stray near Cardiff.

Narcissus triandrus, L. A rare garden escape in England. Native of the Pyrenees.

LILIACEÆ.

Allium ampeloprasum, L. Indigenous in the Mediterranean area. The species is absent as a native in Northern Europe, but, if it is identical, as supposed, with the cultivated Leek, it is one of the most anciently grown vegetables in the British Isles. It has long been established on the Steep Holmes, a small island in the Bristol Channel, and it has more recently been found in South Dorset. In both stations its presence is attributed to garden origin.

Allium carinatum, L. Native in Europe on dry hills extending to Northern France and Belgium. It is also known in cultivated fields and waste ground beyond this area. In the British Isles it is said to be established in wet muddy situations on the banks of the Tay, Ouse, and Esk, where it is suspected as a garden escape. It might be expected, from its geographical range, to occur as a native on the dry hills of Southern England. Its presence in the above-mentioned localities would hardly suggest a native status.

Allium nigrum, L. Recorded under the name of *Allium ampeloprasum* in Trimmer's *Flora of Norfolk*, p. 144. Probably of garden origin.

Allium paradoxum, Don. A Siberian species which has become introduced and naturalised, probably through garden culture, in Scotland, near Edinburgh. It is recorded under the same conditions near Prague in Bohemia.

Allium roseum, L. A native of the Mediterranean area. Twice recorded as naturalised in England. Doubtless of garden origin.

Asphodelus fistulosus, L. Native in dry places in the Mediterranean region, and a common weed of cultivated fields and roadsides in Syria and Palestine. It has several times been recorded in considerable quantity in England. It may possibly owe its origin to Eastern grain.

[**Fritillaria Meleagris**, L. Native in meadows in North and Central Europe, including Southern England. In such districts as the Thames Valley, where it grows under conditions similar to those on the other side of the Channel, there seems no room for doubt as to its indigenous state, but in the greater number of its localities it is recorded as a garden escape.]

Fritillaria pyrenaica, L. A garden escape in the New Forest. Indigenous in the Pyrenees.

Hemerocallis flava, L. Native in the marshes of Central and Eastern Europe. Recorded from woods near the Menai Straits, where it is probably an escape from gardens, but plentifully established.

Lilium Martagon, L. Commonly cultivated in gar-

dens in England and recorded in many localities as naturalised in their neighbourhood. A native of Central and Southern Europe.

Lilium pyrenaicum, Gouan. A native of the mountains of South-West Europe. Cultivated in English gardens, and long established in one locality in Devonshire. It was doubtless of garden origin there.

Muscari comosum, Mill. Native of sandy places of Central and Southern Europe, where it is also a weed of cultivated fields. Once recorded in England as a cornfield weed introduced with foreign seed.

[**Muscari racemosum**, Mill. Native in sandy and chalky hills in Normandy, and doubtless also in England. It is confined to the eastern counties, and its nativity has been doubted by many observers. It has been difficult to find any statement that it grows in perfectly natural habitats, but the opinion of Professor Babington that it was without doubt a native of Cambridgeshire may, in the absence of geographical difficulties, be taken as sufficient guarantee of its native status.]

Ornithogalum nutans, L. Native of woods and meadows in Southern Europe. Elsewhere a weed of cultivated ground. Occasionally recorded in England as an escape from gardens and as a weed in cultivated and waste ground.

Ornithogalum umbellatum, L. Native of grassy places in Southern Europe. A weed of cultivated and waste ground further north on the Continent and in England. In this country it is not infrequently recorded

as an escape from gardens. A similar tendency to establish itself is shown in the United States of America, where it has become abundantly naturalised in the neighbourhood of towns and villages.

[**Tulipa sylvestris**, L. Native in pastures in Central and Southern Europe. In Normandy, Belgium, and England rare, and frequently suspected as an escape from cultivation. There are, however, several localities in England in which it has now the appearance of being indigenous, and as its non-native state in the neighbouring part of the Continent is open to doubt, there seems no positive reason for rejecting it as a British plant.]

JUNCACEÆ.

Luzula albida, DC. A native of woods and meadows in Central Europe. Recorded two or three times in England on railway banks and other dry waste ground. Possibly introduced with grass seed.

Luzula nivea, DC. Native of mountain woods in Southern Europe. Twice recorded as an alien in Britain. Probably of garden origin.

ARACEÆ.

Acorus Calamus, L. Completely naturalised in many counties of England and Wales, but native only in the east of Europe. The history of this species has

been admirably told by Trimen in the *Journal of Botany*, 1871, p. 163. He regarded it as introduced for the following reasons: (1) It is not recorded as wild in this country before 1660, and was expressly stated to be absent by such careful botanists as Turner and Parkinson. If it had existed in any quantity where it is now said to be wild, it could not have escaped their notice. (2) The plant, though common now in many parts of Western Continental Europe, has been satisfactorily proved by Kirschleger to have been introduced there from the East.

[**Arum italicum**, Mill. Stated to be absent as a native plant in Northern France, Belgium, and Holland, but in view of the decided opinion of local botanists that it is indigenous in Dorset, Sussex, and Kent, where it grows in natural situations, it cannot be excluded from our native list. Its status has, however, long been open to question in consequence of its cultivation for more than a century in gardens and the suspicion which attaches to some of its stations.]

Calla palustris, L. Native of marshes in Europe and North America. Completely naturalised in marshes in one spot in Surrey to which its intentional introduction has been acknowledged.

NAIADACEÆ.

Najas graminea, Del. Native of the tropics of the Old World. Naturalised in a canal near Manchester.

CYPERACEÆ.

[**Carex brizoides**, L. Once found in Studley woods, Yorkshire, by Mr. MacIvor, and vouched for by Professor Babington, but not since seen in Britain. It is native in Belgium, Holland, and Germany in damp shady woods, and might well occur in Yorkshire as an indigenous plant. It is included in this list in consequence of the opinion expressed in *English Botany* that it was probably planted where found.]

Carex vulpinoides, Michx. A native of low grounds in North America. Once recorded by Mr. Nicholson as an escape near the Thames at Kew.

[**Cyperus fuscus**, L. Native in wet sandy places in Surrey, Hants, and Dorset. Before its discovery in the two last-named counties it was thought by some to be an introduction by the pond on Shalford Common in Surrey, but the extension of its English range, and its presence as a native in similar localities in Northern France and Belgium, leave no room to doubt its indigenous status in this country.]

GRAMINEÆ.

Agropyron cristatum, Beauv. A native in Eastern Europe, said to have been found by Don on the Scotch coast.

Agropyron patulum, Trin. A grass of the Levant,

communicated by Mr. Fraser Robinson as a casual from Hull Docks.

Agrostis scabra, Willd. Mr. Marshall recorded this plant as "apparently quite established on the West Highland railway banks between Tulloch and Fersig." The discoverer thought it might have been introduced with timber from Canada. It is a common native in the woods of that country, and its seeds are frequently found adhering to trees in the autumn.

Alopecurus agrestis, L. Native of grassy places in Central and Southern Europe, only reaching the extreme north-west as a cornfield weed. In England it is well established in cultivated and waste ground, and was noticed as early as the time of Gerarde. It is, moreover, constantly re-introduced with imported seeds and foreign grain. It becomes scarcer and more casual northwards.

Alopecurus utriculatus, Pers. A native of Central and Southern Europe. It has been introduced as a casual into England, doubtless with foreign hay or corn.

Anthoxanthum Puelii, Lecoq and Lamotte. A native of Southern Europe which has occurred in many localities in England. Usually traceable to introduced agricultural seed and probably always due to that source, as its seed is unfortunately largely used to adulterate the seed of Sweet Vernal Grass, to which it bears a close resemblance.

Apera interrupta, Beauv. A native of sandy pastures of Central and Southern Europe, appearing in cultivated

land to the east (Syria), and to the north (Northern France, Holland, Belgium, and England) of its native range. In England it is confined to the eastern counties, and possibly owes its presence to the introduction of hay.

Apera Spica-venti, Beauv. It appears from book records to be a native of sandy pastures in Central and South-East Europe. North-west of this, the plant is confined to cultivated ground and roadsides. It is not uncommon in South-East England in sandy situations of this kind, and is more sparingly scattered over the rest of Britain. Johnson's remark in 1633, in commenting upon Gerarde's first record, that it was probably the grass sold for decoration in London, suggests the possibility that a trade in it may have been the cause of its frequency in Middlesex.

Avena fatua, L. No native habitat can be found on record for this species, but in Temperate Europe, Asia, and Africa it occurs in cultivated and waste ground. In Britain it is locally plentiful.

Avena strigosa, Schreb. Native in meadows near the Caspian Sea, between Sallian and Lenkoran. In the British Isles, as in the rest of Europe, it is only known in cultivated fields.

Briza maxima, L. A native of grassy hills in the Mediterranean region. An occasional escape from garden culture in England.

Briza minor, L. A native of the pastures of Southern Europe which has spread as a weed of cultivated

ground over other parts of the Continent, as well as in America, South Africa, and New Zealand. In England it has been recorded from waste ground in several of the southern counties.

Bromus arduennensis, Dum. A Belgian grass recorded with many other introductions at Penzance in Cornwall.

Bromus arvensis, L. Native in grassy places of Southern Europe, becoming a weed of cultivation in the east and north. It is somewhat widely distributed in England in corn and clover fields, often under conditions that suggest its introduction with agricultural seed or foreign grain and hay.

Bromus brachystachys, Hornung. A weed of the Orient which has occurred among aliens introduced with Turkish barley.

Bromus interruptus, Druce. This interesting addition to our weeds of cultivation was first distinguished by Mr. Druce, and described as a species in 1895. Its range includes the southern portion of England. It remains to be proved whether it grows as a native elsewhere, but at present it is only known as an artificially supported weed.

Bromus macrostachys, Desf. A casual near the West Dock, Hull. Indigenous in the Mediterranean region.

Bromus madritensis, L. A native of the Mediterranean region, and also a weed there on roadsides, and

in cultivated and waste ground. It is absent in Northern France, Belgium, and Holland. In England it is found as a weed of dry waste ground in the southern counties, and is attributable, in some cases at least, to the introduction of foreign grain.

Bromus patulus, Mert. and Koch. Native in grassy places in Southern Europe and Western Asia. Outside this region it is a weed of cultivation, or, as in England, only a casual due to the grain trade.

Bromus rigidus, Roth. A native of the Mediterranean region on maritime sands and bare hills. It may be native further north, as Mr. Lester records it as abundant in sandy places in Jersey (*Journal of Botany*, 1901, p. 64), but in England it has always been attributed to grain introduction, imported agricultural seed, or ship's ballast.

Bromus scoparius, L. A native of dry sandy places in the Mediterranean region, where it is also a common cornfield weed. It has been observed a few times in England in connection with imported grain.

Bromus secalinus, L. Native of Mediterranean meadows. Widely spread in Britain, as well as the rest of Northern Europe and North America, as a weed of cultivation.

Bromus squarrosus, L. A casual introduction, probably with grain. It has been found in two or three localities near large towns in Britain. Native in Southern Europe and Western Asia.

[**Bromus sterilis**, L. The book records of this species would lead one to suppose that, at any rate in most counties, it is exclusively a weed of waste ground and cultivated fields. It is certainly much more frequently met with in such situations, but it is also an undoubted native in dry broken ground.]

Bromus tectorum, L. A native of dry places in Europe, Siberia, and Northern Africa. Also a somewhat common weed of dry waste ground in the same regions. It becomes scarcer and less permanent northwards in Europe, and in England it is seldom better than a casual, introduced with grain, agricultural seed, and other kinds of merchandise.

Bromus unioloides, H. B. and K. A grass of very wide distribution in tropical, sub-tropical, and even temperate regions, having been long used as a fodder crop. As such its seed has been recently on sale in Britain. Its few records as sub-spontaneous point, however, rather to its importation with foreign grain.

Calamagrostis sylvatica, Bess. A widely distributed native of woods and pastures in the mountains of Central and Southern Europe and the East. It is cultivated in English gardens, and is on record as a casual. Doubtless of garden origin.

Chloris radicata, Sw. Native of the savannahs of tropical America, and of wider distribution as a roadside weed. Recorded in the *Botanical Record Club Report* for 1875 by Mr. J. Whitehead as a casual near Chester.

Crypsis aculeata, Ait. A native of sandy shores in Southern Europe. It is widely spread in the Old World. In England only a grain-introduced alien.

[**Cynodon Dactylon**, Pers. Native on the seashores of Cornwall, Devon, and Dorset. It is more common in Britain as a casual on roadsides, village greens, and such-like localities, in all of which it is introduced. It is naturalised and spreading in scattered districts in many other parts of the world.]

Cynosurus echinatus, L. Native on cliffs, and dry pastures near the sea in Jersey and Normandy, and probably other parts of Europe. Much more common in the South of Europe and the Orient as a weed in dry cultivated fields. To its presence in the grain districts of South-East Europe and Asia Minor is due the large number of localities in which it has been recorded throughout England as a grain-introduction.

Echinaria capitata, Desf. A grain alien, recorded by Mrs. Baker at Oulton. Native of dry hills in the Mediterranean region.

Eleusine indica, Gaertn. A very widely extended weed of tropical and sub-tropical regions. Occasionally introduced with merchandise into Britain.

Elymus caput-Medusæ, L. A native of sandy and rocky places from the Mediterranean area to Turkestan and a weed of cultivated ground in Southern and Central Europe. In England it is only known as a rare casual, probably introduced with grain. It has the same

status in North America, possibly from the same cause.

Eragrostis minor, Host. A widely distributed weed of tropical and temperate regions. It has been recorded once or twice in England as a casual.

Gastridium australe, Beauv. Native in dry pastures in the east of Europe. Now widely spread as a weed of cultivated ground in most temperate parts of the world. In England it occurs under the latter conditions, sometimes even in abundance.

Heleochloa schoenoides, Host. It was found in England on waste ground associated with certain weeds which pointed to its introduction with foreign corn. Native of the Mediterranean region and the East.

Hordeum jubatum, L. Several times recorded from waste ground in England. It was probably in all cases a grain-sifting casual. Native of the New World.

[**Hordeum murinum**, L. Probably native on the coasts of North-West Europe. In England, except near the sea, it always grows (or at any rate is always so recorded) in waste ground around villages and towns. It is probably much more commonly dependent upon men than not.]

Hordeum vulgare, L. Barley is not uncommon as a straggler from cultivation.

Koeleria phleoides, Pers. A Mediterranean grass which has more than once been recorded as a casual in England.

Lagurus ovatus, L. The *Hare's Foot Grass* of gardens. Native of the sandy shores of the Mediterranean Sea and a weed of cultivated ground in Southern and Central Europe. In England it scarcely appears to be more than a casual. Sometimes of garden origin, sometimes a grain-introduction.

Lepturus incurvatus, Trin. A native of the sea-shores of the Mediterranean region which has been recorded once or twice in England under circumstances that suggested its introduction with ships' ballast.

Lolium multiflorum, Lam. *Italian Rye Grass*. A South European grass, largely introduced for agricultural purposes, and now established in many parts of the country.

Lolium siculum, Parl. A Mediterranean grass which has been recorded by Davey as a casual in Cornwall.

Lolium temulentum, L. A weed of cultivated ground in England as in the rest of Europe, in the East, and in North America. It is frequently re-introduced into this country with foreign seed, and sometimes becomes locally abundant for a short time.

Panicum capillare, L. A common weed of cultivated ground in North America. It has been recorded from England and Ireland as a casual introduction.

Panicum Crus-galli, L. A cosmopolitan weed. In England it is not uncommon in damp waste and

cultivated ground, but does not take the prominent position which it does in Southern Europe.

Panicum glabrum, Gaud. Common locally in South-East England, and recorded from one or two other stations in other parts of Britain. It has not been observed in quite wild situations anywhere in Europe. M. Moulins (*Bull. Soc. Linn. Bord.* vol. i. p. 45) may be right in supposing that it originally came with ships' ballast from America.

Panicum miliaceum, L. Commonly cultivated in warm countries and much imported into England, where it has been frequently observed as a casual in waste ground.

Panicum sanguinale, L. A casual weed of waste ground in England. Occasionally spreading in arable land. Its origin is uncertain.

Phalaris cærulescens, Desf. Native in the east of Europe and a weed of cultivation in the Mediterranean area. Once recorded in Britain on ballast at Cardiff.

Phalaris canariensis, L. A weed of cultivated ground in Central and Southern Europe. In England it is one of the species which betrays the localities where birds have been fed, or where the sweepings from their cages have been thrown. It is never more than a casual.

Phalaris intermedia, Bosc. One of the casuals recorded by Mr. Bucknall from St. Phillip's Marsh,

Bristol—a large piece of waste ground where siftings are thrown from neighbouring distilleries and corn-mills.

Phalaris minor, Retz. Native of grassy places in the East, and a weed of cultivated land in Southern and Western Europe. It has been observed as a casual in many parts of England, and was certainly in one or two places introduced with Turkish barley.

Phalaris paradoxa, L. A common weed of agriculture in the Mediterranean region. Known in England as a grain-introduced casual.

Phleum asperum, Jacq. An agricultural weed of Southern Europe which has been several times recorded from waste ground in England. Some of the records have, however, been proved to be erroneous.

Phleum græcum, Boiss. and Heldr. Native of Greece. Mr. A. B. Jackson recorded it as a casual in Leicestershire.

Phleum tenue, Schrad. A native of Southern Europe, recorded as a casual in Leicestershire by Mr. A. B. Jackson.

[**Poa Chaixii**, Vill. This species is mentioned because it has usually been regarded as an introduction. Considering the fact that it is clearly native in the woods of Belgium and that its British stations look like natural ones, there seems little reason to include it in this list.]

[**Polypogon monspeliense**, Desf. Native of wet sandy ground from the Mediterranean region, extending along the west coast of Europe to England. A weed of cultivated and waste ground of very wide distribution. In England it has more frequently been recorded as a casual introduction than as a native, in some cases being traced to imported grain and in others to imported wool.]

Secale cereale, L. A frequent stray from rye-fields.

Setaria glauca, Beauv. Probably native on the grassy hills of Southern China. A weed of cultivated and waste ground over the greater part of the world—as such it is not uncommon in England.

Setaria italica, Beauv. Probably a weed of South-East Asia. It has long been cultivated in Europe, and its seeds are frequently imported into England to feed cage-birds. It thus appears as a casual of waste ground.

Setaria verticillata, Beauv. A frequent weed of cultivated and waste ground in Central and Southern Europe and various other parts of the world. In England it is rare, and hardly more than a casual. Its introduction has been traced to introduced oil seed in one instance.

Setaria viridis, Beauv. A native of Manchuria, and a weed of cultivated and waste ground in the greater part of the North Temperate Zone. Its native range is possibly wider than above indicated, but cannot be supposed to extend to England, where the species has,

so far as the writer can discover, only been observed in artificial habitats.

Stipa pennata, Pers. A native of dry mountain pastures in Central and Southern Europe. It is frequently cultivated in gardens, and doubtless owes its few records in England to this fact.

Tragus racemosa, Scop. A native of dry sandy places in Southern Europe. It has become a noxious weed in the sheep pastures of Australia. Its clinging seeds become entangled in wool, and so get imported into England and other countries.

Triticum cylindricum, Ces. Mr. Hume has sent this grass from Par in Cornwall, where it was doubtless a casual introduction. Native of Southern Europe.

Zea Mays, L. *Indian Corn*. In consequence of its extensive use in England it occasionally appears on waste ground about towns.

FILICES.

Asplenium fontanum, Bern. A native of Southern Europe. It has been recorded several times from walls in various parts of England ; probably always originating from gardens.

Onoclea sensibilis, L. Native of North America and Northern Asia. It has been recorded as an established introduction in Yorkshire.

CHARACEÆ.

Chara Braunii, Gmel. Widely distributed as a native of Central and Southern Europe and Northern Africa, reaching as far north as Belgium, Sweden, and Norway. In England it has been found only in one place, viz., by Mr. Charles Bailey (*Journal of Botany*, 1884, p. 4) in warm water from cotton-mills near Reddish in South Lancashire. The use of Egyptian cotton in the mill and the presence of an undoubtedly Egyptian aquatic in the same locality suggest introduction with the cotton.

SALVINIACEÆ.

Azolla caroliniana, Willd. A native of the United States, recently introduced into English gardens and tending to spread into ponds and ditches.

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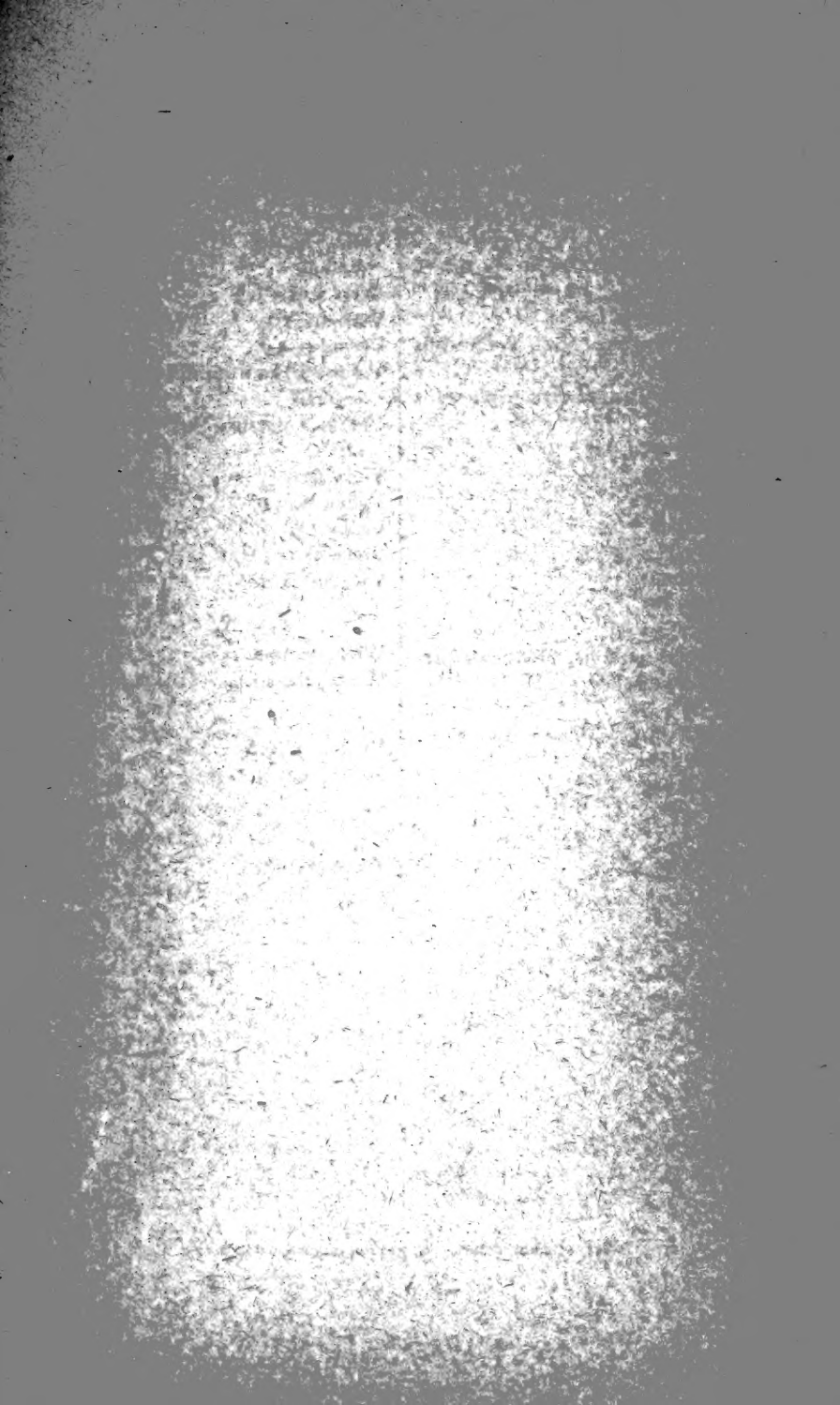
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