
XIV. *A Synopsis of the British Species of Rosa.* By Joseph Woods, Esq. F.L.S.

Read April 16 and June 4, 1816.

THE beauty of the Rose is so trite a theme, that it would be almost impossible to praise it in any other terms than have already been used for the same subject:—but beautiful as it is, the genus has long been involved in confusion and obscurity. Born with the same senses, the same tastes as other men, the botanist will feel its beauties even more strongly than they do, in proportion as those tastes and senses have been more exercised towards similar objects. But the difficulties attending the investigation of these plants are at least equal to the charms of their appearance and fragrance: even their commonness has perhaps contributed to our ignorance of them. Educated with Roses always before our eyes, it is long ere we learn to consider them as objects of science; and the excitement of novelty is lost while we are yet incapable of accurate examination. For my own part, if I had not been stimulated by the strikingly different appearance of the genus in the hedges of Westmoreland from that which it assumes in the southern counties, I should probably never have exposed my insufficiency in this attempt to discriminate the species: but the almost uniformly villous leaves and the colour of the flowers, generally either a white (sometimes almost pure, sometimes with a spot or two of full red), or else a much deeper red than in any of the Roses in the neighbourhood of London, attracted my attention,

tion, and urged my endeavours to find fixed and distinct characters, to distinguish plants marked by such differences in the general appearance. Though I feel that I have little reason to congratulate myself on the success of these attempts, and have indeed been successively obliged to relinquish many of the characters on which that general difference of appearance depends, yet I venture to offer their imperfect results to the notice of the Linnæan Society. In an obscure or intricate subject, the faithful record of observations is always valuable.

With views no more exalted, it may be considered as inconsistent to attempt a Synopsis of the British Roses; but in fact I did not perceive any other mode in which the remarks I had collected could be so well arranged; and the attempt once made, I exerted myself to give some consistency and value to the essay, by putting in systematic order the materials within my reach. That it is still imperfect I am aware; but I flatter myself it will not be found useless by the future investigator of this most interesting genus.

It appears to me that the principle to be attended to in the subdivision of genera, is to keep together those species which are most nearly allied in nature. In the formation of the genera themselves, it may be necessary to attend exclusively to the organs of fructification, as the most important parts of the plant; but in their sections we must find a character in any part which will keep similar plants together. With all this latitude of choice, the accomplishment of the object will be found often of very difficult attainment; and after all our labours, the best arrangement which can be made may still present some important aberrations.

On examining by this general rule the usual division of the genus *Rosa* into those "fructibus ovatis" and "fructibus subglobosis,"

sis," the following observations will sufficiently show that it is extremely defective. The existence of prickles, or rather of setæ, on the fruit or on the peduncle, will not serve for this purpose much better, though these characters have hitherto been much insisted on;—the setæ on the peduncle are, I believe, more constant than those on the fruit, but they are by no means implicitly to be depended on.

I have no intention, as I have no means, to enter in this essay on any examination of foreign Roses; but in endeavouring to form an arrangement of the British plants, it became necessary to pay some attention to the general appearances, and to the more striking characters of the foreign species. If the whole genus were spread out before a botanist, he would separate them, according to the habit or general appearance of the plants, into several leading divisions; but in proceeding to distinguish each of these families in description, he will feel the want of some precise language to discriminate certain peculiarities not yet sufficiently attended to. Indeed, in analysing the differences among any tribe of plants more minutely than has been done before, we shall probably find it necessary either to adopt new terms, or to use with more precision some to which a more lax or more general interpretation has been affixed. This privilege I have ventured to assume in a few instances, where it seemed to me indispensable; and particularly with respect to the arms (*arma* of Linneus) of the Roses, which have hitherto been called by the general term *aculei*, except in a few instances, where weak pedicellated glands have supplied their place; and this latter appearance has been designated by the word *hispid*. Something of the necessity of more accurate distinctions seems to have been felt by Sir J. E. Smith in his account of the genus *Rosa* in Rees's Cyclopædia, by

his having used the words *aculeatus*, *setosus*, and *hispidus*, as applied to the fruit and peduncle; but he extends the difference no further, and has given no explanation of the particular meaning he attaches to these terms.

Roses are furnished with *aculei*, *setæ*, *glands*, *hairs*, *chaff*, and *pubescence*. *Aculei* or prickles are sometimes hooked, and generally more or less curved; but in some species they are quite straight. They have an expanded oblong base, and occur on the stems, petioles and nerves of the leaves, and perhaps in one or two instances on the fruit and fruit-stalk; at least one variety of *R. spinosissima* is either furnished with *aculei*, or with *setæ* so strong that they are very liable to be mistaken for *aculei*.

ACULEI are either straight, as in *R. spinosissima*; straightish, with a very slight curve downwards, as in *R. villosa*; falcate, or bent as a scythe, as in the large prickles of *R. gracilis*, and in some varieties of *R. tomentosa*; and hooked or uncinatè, like a claw or sickle, as in *R. canina*. Those of *R. arvensis* and of some neighbouring species are frequently a sort of obtuse elliptical cone, with a straight or curved mucro. This peculiarity of form is not found in *R. systyla*, and is no where sufficiently constant to enter into the character of any species. In the descriptions of the species, the form of the *aculei* must be taken from those which grow on the strong parts of the plant, and from those which are largest and with the most extended base.

SETÆ are always straight, and tipped with a gland; this gland sometimes falls off, but vestiges of it can generally be perceived. *Setæ* are always smaller than *aculei* occupying the same situation; that is, the *setæ* of the stem are smaller than the *aculei* of the stem; the *setæ* of the petioles are smaller than the *aculei* of the petioles; but the *setæ* of the stem are often larger than the *aculei*

aculei of the petioles. Setæ are found on the same parts as the aculei, and are besides frequent on the peduncle and fruit, and sometimes on the leaflets of the calyx: they differ, in being longer or shorter in proportion to the size of the gland by which they are terminated.

The GLANDS of Roses are almost always on little footstalks, which however being weak, and seldom of length greater than the diameter of the gland, may in general be distinctly separated from the setæ above mentioned.

Glands rarely occur on the stems; but they are found on the stipulæ, which are frequently fringed with them; on the petioles and nerves; in some Roses on the under, and in some also on the upper side of the leaf, and sometimes on the edges, tipping the serratures, or giving the appearance of secondary ones; on the fruitstalk, receptacle, and calyx. The latter part is not unfrequently furnished with setæ at the base, which, gradually diminishing in length and strength, pass insensibly into glands towards the termination of the phyllus. To these glands the odour of the leaves of Roses seems to be invariably owing. They are generally most abundant on the early and imperfectly-formed leaflets, and sometimes fall off or dry up towards autumn.

Some Roses are furnished with only one sort of these arms, others have two, others again all three. In some, one sort is confined to one or two parts of the plant, as the setæ of *R. villosa*; in others it occurs generally, as the setæ of *R. rubella*. Some species, as *Rosa Eglanteria*, proceed by almost insensible gradations in one part or other of the plant from hooked to straight prickles, to setæ, and to glands; others again, though furnished with all these, display them perfectly distinct. In some the aculei, though always distinct from setæ, vary very much in size and character;

in others, though somewhat different on different parts of the plant, yet on any given part they are nearly similar. Some further observations on this head will be found in the description of the surculi.

Some Roses in the place of setæ exhibit white HAIRS, weak, but not very fine: in *R. Borreri* the peduncle has sometimes weak setæ, sometimes these white hairs, and sometimes, though more rarely, a fine pubescence: hairs also occur on the upper side of the axillæ of the foliole, and occasionally also along the channel on the upper side of the petiole in most Roses; and sometimes the petioles and the nerves on the underside of the leaf are covered rather with hairs than with down; but from this point the hairiness passes insensibly into pubescence, with which it is even interchangeable. On the upper side of the leaf likewise a few straggling along the nerves may occasionally be observed in all the smooth-leaved Roses; the seeds also and the styles are generally hairy or villous. The weak white hairs occur in every part of the plant on which glands or setæ are found, being a production apparently of a similar nature.

CHAFF may be observed occupying the place of hairs at the axillæ of the folioles of *R. spinosissima* and some others of that tribe. I have not observed it elsewhere.

PUBESCENCE is found on the stems, receptacles, calyces, stipulæ, and folioles. The presence or absence of hirsuties, whether of coarse or fine hairs, on the petiole and on the veins beneath the leaf, appears to me of considerable importance, and it is observable that these always accompany each other. Individual leaves may doubtless be found in which the petiole is downy and the nerve naked, or perhaps sometimes just the reverse; but a more extended examination will assuredly demonstrate their connexion. To the pubescence of the inferior and superior paginæ of the leaf
attention.

attention must be paid, although the former perhaps always in some degree accompanies the hirsuties of the footstalk. On the stem, peduncle and fruit, pubescence is too rarely exhibited in British Roses for me to form any estimate of its value. On the other hand, *R. arvensis* is the only British Rose of which the styles are smooth, and the seeds in all of them are villous. The white hairs which occupy the place of glands are always more or less interchangeable with them; the hairs on the axillæ of the leaflets, and those which are occasionally to be met with along the upper surface of the midrib, are I believe common to all Roses, and can therefore be of no use in distinguishing the species. The chaffiness is only met with in one tribe, where it is somewhat uncertain, and which is besides characterized by much more important distinctions.

The appropriate name for the HIP of a Rose during the inflorescence has been long a subject of contention among botanists; a circumstance which may be considered as a proof of the insufficiency of the Linnæan terminology in this respect. Linnæus himself called it the *germen*. Sir J. E. Smith, aware of the impropriety of this term, drew all his specific characters of this part from the fruit, not adverting to its appearance in an earlier stage: in the detailed description he still preserves the word *germen*. Willdenow continues the use of this word, although he censures Linnæus for adopting it. Jussieu and Gærtner call it simply *calyx*, describing the genus as having *calyx urceolaris*. The French botanists call it the *tube of the calyx*: but, according to general apprehension, the calyx would consist merely of those five leaves which form the outer envelope of the flower; and even after a strict attention to botanical terms, a student would be apt to conclude the fleshy body separated by its substance, and apparently
by

by its functions, from the five small leaves, to be a *germen*, till the circumstance which alone distinguishes it—the small orifice through which the styles pass—is pointed out to him. Under these circumstances I have ventured to call the part in question a *receptacle*, understanding by this term the thickened substance occurring between the summit of the peduncle and the leaves of the calyx in the natural order of *Rosaceæ*, supporting not only the latter, but also the stamina and petals, and confining it to the period of inflorescence:—the outer covering of the flower I have therefore exclusively called *calyx*, and its divisions *leafits* instead of *lacinia*.

The only objection to this arrangement arises from that part of a strawberry and of one or two other genera, which has usually been called *receptacle*. Considering this term as only applied to the edible part of the strawberry, Gærtner says that the Rose has no receptacle: the difference, however, seems to me only this, that the inner series of vessels in the receptacle is dilated into a spongy body; in *Fragaria* soft and juicy; in *Comarum* harsh and dry; while in *Rosa* and *Potentilla* no such expansion takes place. If this be a correct view of the subject, the fruit of the strawberry ought not to be considered as the true receptacle, but as a spongy body attached to the receptacle and immediately supporting the seeds.

In calling the calyx simple, sub-simple, or compound, I have perhaps taken a less excusable liberty with the common language of botany;—by *simple*, I mean to express that the leafits are undivided or without any offsets. These offsets of a leafit when they occur have the appearance of a proliferous growth, which renders the term *offset* particularly applicable; and the term would perhaps be better than that of *pinna*, which I have adopted, if

if it were as usual. In a regularly-formed calyx they are always very narrow at the point of junction, and go off at a considerable angle; and when they take their commencement from a wide base, or lie nearly parallel to the line of the leaflet when the flower is open, the calyx must be rejected as a monster. On this subject some further observations will be found in the course of this introduction. This character (of a *simple* calyx), like all others in the genus, must be determined with caution; as even in some of those Roses whose calyx is generally simple, a small offset may sometimes be observed, even putting monstrosities out of the question. Another circumstance to be attended to is, that the proper offset or pinna always occurs before the contraction of the calyx leaflet at the point of the flower; after that contraction many Roses have a strong tendency to produce more or less of a leaf.

The five leaflets of the calyx of a Rose, united before the expansion of the flowers, present five lines of junction, each of which in the *compound calyx* is furnished with a row of offsets; two of the leaves having pinnæ on each side, one on one side only, and the remaining two are uniformly entire.

“Quinque sumus fratres, sub eodem tempore nati,

Bini barbati, bini sine crine creati,

Quintus habet barbam sed tantum dimidiatam.”

This arrangement I express by the term *compound*: in the *sub-simple* calyx every flower offers one or more of these offsets, but the whole provision is never found in any one.

In all Roses these calyx leaflets are liable to become monstrous two ways: sometimes one or two, or sometimes even the whole number will grow out into leaves (*folia*), and sometimes the offsets are entirely wanting even in species where they usually are the

the most numerous. In the first case the divisions mostly take place after the contraction of the leaflet, which in the bud marks the termination of the petals; or if it occur in the lower and broader part, it carries the appearance of a division not of an offset, being wide at the base and contracted upwards; whereas the legitimate offset is uniformly contracted at the base and expanded upwards, except in the few instances where it is capillary. In the second case the receptacle is generally small, and the leaves are expanded towards the apex. In both the receptacle is but little contracted at the summit, and assumes somewhat of a turbinate form; but the best security for the student will be to examine many examples, and to judge by comparison of their proper form.

Another word, which perhaps may require some explanation,—rather, however, from a peculiarity in the mode of growth in this genus than from any singularity in the use of the term,—is *SURCULUS*. In many roses, perhaps in some degree in all, two appearances may be observed; and, if I may be allowed the expression, every species under different circumstances has two distinct habits. A seedling Rose of the family of *R. canina*, for instance, where this property is very remarkable, usually comes up a small and feeble plant; it soon puts forth branches, weak like the parent from which they sprung. The aculei are few, small, weak, and but slightly hooked; the flowers pale and solitary; or, if in a favourable soil, two or even three flowers may be seen together; and the plant for several years probably will not exceed the height of four or five feet. If in this state it be cut down, a strong shoot proceeds from the root or from the base of the stem, which in one year will rise eight or ten feet in height, armed with abundance of strong hooked prickles, whose base is nearly equal to their length;

length; and bearing in the following summer bunches of six or eight flowers; or in *Rosa surculosa*, which affords an excellent example of these modes of growth, perhaps even of twenty-four flowers. In *R. arvensis*, and still more in some foreign species of that tribe, these shoots frequently bear cymes in the same year in which they are produced; consisting in *R. arvensis* of fifteen or sixteen flowers; in *R. indica* of twenty or thirty; in *R. moschata*, as I am informed by my friend Mr. Borrer, who has taken the trouble to count them, sometimes as many as two hundred and sixty-five. As branches are yearly produced from these surculi, their strength diminishes, and the original character of the plant returns till new root-shoots make their appearance. These are produced when the plant is partially destroyed; nor do I know that they ever occur except in consequence of some injury to the original growth. They do not indeed always vary to the extent I have described; but they constantly differ in this manner from the other parts of the plant, though not in equal degree.

In the Latin descriptions no ambiguity can possibly occur from the use of the term "*foliolum*," as applied to the parts of the calyx and those of the leaf. In the English observations I have endeavoured to avoid confusion, by calling the first *leaflet* and the latter *leaflet*, a distinction I did not adopt till I felt the want of it. The shape of the leaflet is taken principally from the terminal one, which I consider as the most perfect; all those of the earlier leaves are uncertain in their shape, always rounder than the others, sometimes retuse: these are to be rejected, and the shape of the leaflet deduced from those expanded later in the season.

The stipulæ of all British Roses are linear-decurrent on the petiole of the leaf, and generally edged with glands; in some

species these continue unchanged, or nearly so, in those leaves which accompany the inflorescence, and no stipulæ are found unaccompanied by leaves; in others the leaflets gradually diminish in number, till at last they are entirely deficient, and the two stipulæ unite and form a *bractea*; in others, again, before this process is complete, the stipulæ increase very remarkably in breadth, and the first bractea formed is perhaps subrotund, though arising from an alteration of strictly linear stipulæ; but in the cymes of flowers the bracteæ are repeated, growing gradually smaller and somewhat narrower; still, however, retaining traces of their original increase in width. The description of the *bracteæ* is therefore taken from the usual form of the first, which are found entirely devoid of leaflets; and the circumstance affords a very good distinction between two tribes of Roses, the family of *R. cinnamomea* possessing them in a remarkable degree, which I therefore describe as *bracteata*; and those of the family of *R. spinosissima* preserving the stipulæ nearly unaltered, which I have therefore called *ebracteata*.

This appropriation of terms is not the only liberty for which I have to apologize in this essay. I must acknowledge that I have described plants as species, of which I can hardly say that I really believe them to be distinct; but when this is the case, it is because I did not know with what species to join them. In enumerating them as species, I hope likewise to provoke the attention necessary to rectify the error; while, if placed as varieties, they would have less chance of being attended to. Another circumstance in which I have deviated from the usual practice of British botanists, though in this I am supported by the authority of Willdenow, is, that I have given names to many of the most remarkable varieties; and this practice has been
adopted

adopted on the same principle of exciting the attention of other observers.

The drawing out into a table the specific characters of a genus possesses a double advantage; it brings them to a test, by which the writer will inevitably discover if unfortunately some of his specific characters should be drawn up without including any peculiarities to separate it from others, a fault of which even good botanical works afford too many examples; and it is of great assistance to the future investigator, as it leads him step by step to the species which is the object of his examination. But in order to accomplish this end, it is necessary that the characters which are most important and most permanent should occupy the first places: it is desirable that the arrangement of the table should of itself divide the genus into its most natural families. To combine these advantages is no easy task. To discover characters which shall be permanent, always capable of clear description and determination, and which at the same time shall uniformly bring together the most similar plants, and separate those comparatively dissimilar, is perhaps beyond the power of the human mind. Mr. Brown's arrangement of *Proteaceæ*, in the tenth volume of the Society's Transactions, is an excellent specimen of what may be done in this way. Lamarck and De Candolle in their analysis of the genus *Rosa* in the *Flore Française*, have proceeded on a similar notion, though they have adopted a much inferior form, and seem to have had no higher ambition than to assist in some degree the investigation of the species. Even in this they have effected very little; because in taking first the colour of the flower, then the shape of the fruit, and then the prickliness of the peduncle, they have adopted for their leading divisions characters which are very variable. The

yellow-flowered Roses are perhaps constant in their colour; but this is by no means the case with the other species. The globular fruit in some divisions of the genus appears to be important; in others it is extremely uncertain. If the bristly fruitstalks are ever of any value, it can only be when they are used very cautiously to separate one or two allied species in particular subdivisions.

The characters which appear to me most constant in this genus are the presence or absence of setæ on the stems; the prickles straight or hooked, equal or unequal; the tendency towards the formation of the upper stipulæ without leaves, or at least with leaves of fewer folioles, and expanding into bracteæ. Next to these are the simple or compound form of the leaflets of the calyx, and the simple or compound serratures of the leaves. In the latter subdivisions I have made use of the shape and flatness or hollowness of the leaflets; and sometimes, though unwillingly, I have been obliged to depend on the pubescence, not finding any other describable character to discriminate plants whose difference of habit seemed to announce the necessity of separation.

This arrangement is not without its disadvantages, principally on account of the deciduous nature of the setæ in two, or perhaps in three, families of the genus. Of these, however, *R. cinnamomea* is the only British plant; and a moderate attention to the description will easily teach the difference between this plant and *Rosa villosa*, the only species with which a specimen devoid of setæ is in danger of being confounded.

ROSA.

R O S A.

CHARACTER GENERICUS.

Receptaculum carnosum urceolare, fauce contractâ.

Calyx 5-phyllus paullum infra faucem receptaculi insidens. *Foliola* plus minus triangularia, tomentosa, æstivatione imbricata.

Petala 5, obcordata, disco faucis receptaculi basi angustissimâ affixa, venosa.

Stamina plurima, disco receptaculi affixa.

Germina numerosa, superficiei internæ receptaculi affixa; inferiora pedicellata. *Styli* tot quot germina per faucem receptaculi transeuntes. *Stigmata* obtusa.

Fructus: Receptaculum auctum baccatum, semina includens.

Semina numerosa, angulosa.

OBSERVATION.

I have already explained the reasons which have determined me to consider the young fruit of the Rose as a receptacle. In the abortive attempts to produce flowers, which so frequently occur in *Rosa sulphurea*, this part is flat as in *Potentilla*. In *R. turbinata* and a Rose called *R. caroliniana* in the gardens about London, it is cup-shaped; and sometimes even in our single English Roses a tendency to this form may be observed, but never without being accompanied by other circumstances of monstrosity.

In addition to the above characters, it may be observed, that all British Roses have weak stems furnished with prickles; pinnate leaves with serrated leaflets; and linear stipulæ generally furnished with glands on the edges, decurrent on the petiole of the leaf.

SYNOPSIS

SYNOPSIS SPECIERUM.

- A. Setigeræ (aculeis sæpius rectis)
1. bracteata, setis deciduis *cinnamomea*.
 2. subbracteata, setis persistentibus
 - α. serraturis simplicibus
 - a. fructu suburceolato, aculeis paucis subæqualibus . . . *rubella*.
 - b. fructu globoso, aculeis confertis valde inæqualibus . . . *spinosissima*.
 - β. serraturis serrulatis
 - a. foliis supra glabris *involuta*.
 - b. foliis utrinque hirsutis
 - * laciniis calycinis integris
 - † aculeis rectis *Doniana*.
 - †† aculeis falcatis *gracilis*.
 - ** laciniis calycinis divisis *Sabini*.
- B. Setis nullis, aculeis rectiusculis
1. calycibus simplicibus *villosa*.
 2. calycibus subsimplicibus
 - α. bracteis ellipticis *scabriuscula*.
 - β. bracteis lanceolatis *heterophylla*.
 3. calycibus compositis
 - α. serraturis serrulatis
 - a. petalis margine crenatis *pulchella*.
 - b. petalis margine integris *tomentosa*.
 - β. serraturis simplicibus *nuda*.
- C. Setis nullis, aculeis uncinatis
1. stylis distinctis
 - α. serraturis serratis
 - a. foliolis hirsutis
 - * pagina tota inferiore glandulosa
 - † aculeis confertis, surculorum inæqualibus . . . *Eglanteria*.
 - †† aculeis sparsis, surculorum subæqualibus . . . *micrantha*.
 - ** pagina inferiore subglandulosa.
 - † pinnis calycinis confertis latissimis . . . *Borreri*.
 - †† pinnis calycinis raris angustissimis . . . *cæsia*.
 - b. foliolis glabris *sarmentacea*.
 - β. serraturis simplicibus
 - a. foliolis subtus venulis hirsutis
 - * pagina superiore hirsuta
 - † bracteis fructum superantibus . . . *bractescens*.
 - †† bracteis fructu brevioribus . . . *dumetorum*.
 - ** pagina superiore glabra
 - † aculeis subæqualibus . . . *collina*.
 - †† aculeis inæqualibus . . . *hibernica*.
 - b. foliolis utrinque glabris
 - * aculeis petiolorum falcatis . . . *canina*.
 - * aculeis petiolorum uncinatis . . . *surculosa*.
 2. stylis unitis
 - α. surculis suberectis; aculeis confertis . . . *systyla*.
 - β. surculis decumbentibus; aculeis sparsis . . . *arvensis*.

1. *ROSA CINNAMOMEA*.

R. bracteata, receptaculis globosis, calycibus simplicibus, caulibus setigeris, foliolis lanceolato-oblongis simpliciter serratis.

R. cinnamomea. *Linn. Sp. Pl.* i. 703. *Willd.* ii. 1065. *Eng. Bot.* xxxiv. t. 2388. *Lam. et Dec. Flore Fr.* iv. 439.

Frutex quinquepedalis. *Rami* vagi, atropurpurascens, setis tenerrimis deciduis, aculeisque rectis, sub-binato stipularibus muniti. *Petioles* tomentosi, inermes. *Stipulae* lineares, undulatae, purpureae, glanduloso-serratae; eae quae floribus propiores foliis deficientibus in bracteas latissimas acuminatas immutatae. *Foliola* 7, par superius et folium impar ceteris majora, omnia lanceolata, molliter pubescentia, quod praecipue in pagina inferiore accidit; supra cinereo-viridia, subtus pallidiora. *Pedunculi* 1 ad 3 bracteas superantes, glabri. *Receptaculum* globosum, glabrum, fuscum. *Calycis foliola* simplicia, elongata, petalis longiora, inermia, margine tomentosa. *Flores* [cyathiformes rubescentes *Sm.*] *Styli* planiusculi. *Fructus* globosus [aurantiacus *Sm.*].

Found by R. A. Salisbury at Aketon pasture near Pontefract. *Smith* in *Eng. Bot.*

R. cinnamomea of Roth's *Fl. Germ.* i. p. 217, and ii. 554, appears to be *R. lutea* β *bicolor*. The above description was taken from a garden specimen (with single flowers), for which I am indebted to my friend Mr. Borrer. On comparison we found it to agree exactly with the figure and description of *English Botany*. Willdenow quotes *R. fluvialis* *Fl. Dan.* t. 868, as a variety of this plant; but this appears to me very doubtful. *R. colliniola* Ehr., *R. majalis* Hermann., and *R. fecundissima* of some German writers, are usually, and I believe rightly, considered as synonyms of this species; but I have not had sufficient opportunity of investigation to decide upon the subject: and Roth describes *R. fecundissima* with hooked prickles; which certainly causes considerable doubt. Perhaps, too, we must place here *R. fraxinifolia* of Gmelin, *Fl. Bad. Alsat.* ii. 413.

The long leaflets with simple serratures would alone be sufficient

cient to distinguish this from every other British Rose ; indeed it belongs to a family of which we have no other example in these islands, distinguished principally by setose stems, straight prickles, globose germens, entire calyx leaflets, lanceolate or oblong leaflets, and large distinct bractæ. The setæ and even the aculei are very apt to be deficient on the upper part of the plant ; and in this intricate genus it is necessary to examine the whole plant, and even many individuals of the species wherever it is possible. In all parts of the plant the setæ are apt to fall off entirely ; but the little papillæ, to which they were originally attached, are in general observable. This family includes *R. Banksiæ* and *R. blanda*, and perhaps we may unite with it *R. parviflora*, *R. nitida*, *R. lucida*, *R. gemella*, *R. Lyonii*, *R. setigera*, *R. caroliniana*, and *R. caucasica*, of the catalogue in Rees's Cyclopædia, to which I refer, as the work of a botanist of the highest authority, and as the most complete list of the genus hitherto published. I must, however, take this opportunity to declare that my knowledge of the foreign Roses is exceedingly slight and confined ; and that in this attempt to mark the subdivisions of the genus, I have drawn my notions of the plants almost entirely from the characters given in the above-mentioned work. The object of these enumerations is to make my ideas intelligible respecting the natural affinities of the several species. In all this tribe the setæ are deciduous, and the aculei few and nearly equal, never passing by almost insensible gradations into setæ, as they do in *Rosa spinosissima*, *R. involuta*, &c.

This plant having hitherto been observed only in one place in these islands, I have no British varieties to enumerate. In countries where it is plentiful it varies very much in appearance, if we may judge from the different names it has received, and the discordant opinions as to what ought to be included in it as varieties.

2. ROSA RUBELLA.

R. ebracteata, caulibus setigeris, receptaculis suburceolaribus, serraturis foliolorum simplicibus, aculeis perpaucis gracillimis subæqualibus.

R. rubella. *Eng. Bot.* xxxvi. t. 2521.

Frutex erectus, 3—4-pedalis; in sabulosis maritimis vix sesquipedalis. *Rami* breves, fusci, aculeis rectiusculis, gracillimis, setisque confertis instructi. *Petioli* glandulosi, foliorum ad ortum superne subacerosi, cetera nudi. *Stipulæ* lineares, margine glandulosæ, subæquales. *Foliola* 7 ad 11 paria, quorum duo vel tria summa ejusdem cum foliolo impari magnitudinis, reliqua sensim minora; omnia elliptica, obtusa, simpliciter serrata, utrinque glabra, supra viridiora, subtus pallidiora. *Pedunculi* solitarii, filiformes, setis longiusculis tenerrimis vestiti. *Receptaculum* basi globosum, superne aliquantulum urceolatum; nunc glabrum, nunc setis sparsis instructum, atrofusum, nitidum. *Calycis foliola* triangularia, subulata, simplicia, setosa. *Flores* rubelli, aut interdum rubri, vel variegati. *Styli* inclusi; stigmatibus planiusculis. *Fructus* subglobosus, superne receptaculi instar ad formam urceolatam accedens [coccineus, Sm.].

Mr. Winch finds this species on the sands of the sea-shore in Northumberland, mixed with *R. spinosissima*: it is also said to have been brought from Scotland. The ripe fruit I have never seen.

The resemblance of *R. rubella* to *R. spinosissima* may perhaps have occasioned it to have been so long overlooked; though the stems and branches covered with setæ, intermixed with a very few slender aculei, sufficiently distinguish it. The simple serratures of the leaflets will not suffer it to be confounded with *R. involuta* or *R. Doniana*.

The specimen of *R. pimpinellifolia* in the Linnæan Herbarium considerably resembles this species; but it is not sufficiently perfect to enable me to pronounce with confidence: I have therefore preserved the name given to it in English Botany. Perhaps some other authors may also have intended this plant by *R. pimpinellifolia*; but I have not been able to unravel their synonyms from those of *R. spinosissima*.

Rosa rubella is an interesting species, as it is so exactly between the families of *R. alpina* and *R. spinosissima*, that it might almost indifferently be referred to one or the other. The aculei are few and frequently wanting, as in the former tribe; the setæ, though not uniformly deciduous, are yet very apt to fall off; and the fruit, though not properly urceolate, is distinguished from that of *R. spinosissima* and its affinities by a very evident neck. Of the family of *R. alpina* we have no British Rose; it includes besides that species *R. pendulina*, *R. lagenaria*, and *R. pyrenaica*.

Mr. E. Forster has a plant raised from seeds which were sent from Ireland for *R. hibernica*, and which, if not a distinct species, must be referred to *R. rubella*. The receptacle during the inflorescence is very long, and the leaves of the calyx are furnished with small offsets. The prickles are extremely slender, and more curved than is usual in the tribe, and the leaflets are narrower than their general form in this and the following species. There is a specimen closely resembling it in the Banksian Herbarium, where it is referred to *R. pimpinellifolia*, and marked *Hort. Pitcairn*. 1781.

3. ROSA SPINOSISSIMA.

R. ebracteata, caulibus setigeris, receptaculis globosis, serraturis foliolorum simplicibus, aculeis confertis valde inæqualibus.

R. spinosissima. *Linn. Sp. Pl.* i. 705. *Fl. Brit.* ii. 537. *Eng. Bot.* iii. t. 187. *Willd.* ii. 1067. *Roth's Fl. Germ.* i. 217. ii. 555.

R. pimpinellifolia β. *Lam. et Dec. Fl. Fr.* iv. 438.

R. pumila spinosissima, foliis pimpinellæ glabris flore albo. *Raii Synop.* 455.

Frutex erectus, in apricis bipedalis, quandoque in umbrosis multo elatior. *Rami* breves, interne fusci, aculeis reclinatis vel horizontaliter patentibus, rectiusculis, confertis, valde inæqualibus, tandem in setas immutatis, muniti. *Petioles* nunc glabri, sæpius glandulosi, interdum aculeis rectis instructi, acerosi, rarius pilosi. *Stipulæ* lineares, glanduloso-serratæ, glabræ, æquales. *Foliola* 7-11, foliolum impar, et paria duo superiora reliquis majora, inflorescentiam versus subpauciora, simpliciter serrata, hic illic serratura

ratura minore, plerumque glabra, interdum pilis raris ad nervum instructa, saturate viridia, nitoris expertia, subtus pallidiora. *Pedunculi* solitarii, superne incrassati, glabri. *Receptaculum* globosum, glabrum. *Calycis foliola* triangulari-lanceolata, acuminata, simplicia, petalis breviora. *Flores* planiusculi, petala alba, basi lutescentia, rarius pallide rubescentia, vel venis rubescentibus, vel alba gemmâ rubellâ. *Styli* inclusi; stigmatibus planiusculis. *Fructus* glaber, globosus vel depressus, nitidus, atro-purpureus, demum niger, interdum etiam maturus, sanguineus.

In borders of fields and bushy places in a gravelly or sandy soil; frequently abundant on sand-hills by the sea-shore.

In old specimens growing in barren and exposed situations, the branches are occasionally destitute of prickles. The flowers are sometimes red, and sometimes with veins of that colour. I have a specimen of the latter variety, gathered near Cartmell in Lancashire, with elliptical acute folioles. In the *R. ciphiana* of Sibbald they are variegated with red and white.

“The ripe fruit is in some countries preserved, and brought to table in that state. In its natural state it is every where eaten by children. It has a grateful sub-acid taste. The juice of it diluted with water, dyes silk and muslin of a peach-colour; and with the addition of alum, of a deep violet: but it has very little effect on woollen or linen.” *With.* ii. 465.

β. Fruit-stalk rough, with pedunculated glands. The flowers are sometimes very large.

R. pimpinellifolia α. *Lam. et Dec. Fl. Fr.* iv. 438. Sussex, Mr. Borrer.

γ. *aculeatissima*. Fruit very large; peduncles and fruit sometimes smooth, sometimes armed with aculei rather than setæ: both appearances may be seen on the same plant: the fruit is generally attenuated at the base. Sussex, Mr. Borrer.

R. pimpinellifolia γ. *Desvaux Journ. de Bot.* ii. 119.

δ. *pusilla*. Peduncle very short; fruit large, depressed, almost buried among the leaves. Ireland, Mr. Sabine.

- ε. Peduncle setose; fruit somewhat ampulliform, dark. Found by Mr. Robertson near Newcastle. I have never seen any specimen: it may perhaps be a dark-fruited variety of *R. rubella*.

R. spinosissima may be easily distinguished from *R. involuta* by its simple serratures. The only other British plant with which it could be confounded is *R. rubella*; but in *R. spinosissima* the aculei are numerous, strong, and expanded at the base, and gradually diminish into setæ, those of an intermediate size being as numerous as those which are larger or smaller. In *R. rubella* the prickles are few, very slender, little expanded at the base, and nearly of a size; while the setæ are much more numerous and crowded than in *R. spinosissima*: the setæ of the peduncle also in *R. rubella* are long and slender; whereas the peduncle of *R. spinosissima* is either naked as in α, or with the glands on short peduncles as in β, or with arms, which are rather aculei than setæ, as in γ. But perhaps the existence of such variations in this species ought to induce us to place but little dependence on this character. Both the colour and shape of the fruit of *R. spinosissima* vary considerably; but it is probably never either so red or so long as in *R. rubella*.

R. myriacantha, Lam. et Dec. Fl. Fr. iv. 459, & vi. 533, appears to be allied to *R. spinosissima*; but the footstalk and the under surface of the leaves are covered with glands. Lamarck and Decandolle also mention that there is a difference in the serratures of the leaves and in the leaves of the calyx, but they do not point out in what it consists. Desvaux, *Journal de Botân.* ii. 118, says the serratures of *R. myriacantha* are compound; but in a specimen of this species from Decandolle, in the Herbarium of Mr. D. Turner, they are simple.

I am by no means confident that the figure in the *Fl. Danica*, t. 398, is intended for this plant: it differs in the aculei, which are

are represented as all equal; and being variously bent, look rather like hairs than prickles: their length, however, gives them a different appearance from those of *R. rubella*, and I have never observed smooth fruitstalks on that species. In all the *Roses* of the *Flora Danica* there is an unnatural curvature and laxity of habit, which was probably introduced by the artist from the notion that it would render them more beautiful as drawings.

No small degree of confusion has arisen between the names of *R. spinosissima* and *R. pimpinellifolia*, originating apparently with Linnæus himself. In the *Flora Lapponica* he says of *R. sylvestris pomifera minor*, which has usually been considered the same as *R. spinosissima*, "In desertis passim prope tuguria vel fluviorum ripas obvia fuit, licet nullibi copiose." In the *Flora Suecica* he describes a species under that name, with a reference to the *Sp. Plant.* but not to the *Flora Lapp.*, and says of it, "Habitat ad agrorum margines, eorumque acervos passim." Again, in the *Fruticetum Suecicum* (*Amæn. Acad.* v. 220,) he writes, "Per totam Sueciam crescit, præcipue in acervos lapidum et ad agrorum margines, adeoque in sabuletis et montibus." In the second edition of the *Sp. Plant.* i. 703, *R. pimpinellifolia* is first introduced, "germinibus globosis, caule aculeis sparsis;" and it is added, "Habitat forte in Europa:" but no synonyms are given. In the same edition *R. spinosissima* is described "germinibus ovatis glabris, pedunculis caule petiolisque aculeatissimis;" and in the *Syst. Veg. edit.* 13, the character "germinibus globosis" is equally given to both.

Sir J. E. Smith considers the specimen of *R. pimpinellifolia* in the Linnæan Herbarium as undoubtedly *R. spinosissima*; and very naturally concludes, that when Linnæus added *R. pimpinellifolia*, he did not recollect the plant to which he had previously given another name. Dr. Wahlenberg, *Fl. Lapp.*, quotes *R. spinosissima* of *Fl. Suec.* of Linnæus, but with a mark of doubt, as a synonym
of

of his *R. majalis*, of which he declares, “Rami ramulique in maturo frutice sæpius toti inermes, rarius aculeis stipularibus paucis rectis gracilibus armati.” The principal, or rather, I believe, the only ground on which this reference is supported is, that the place of growth of *R. majalis* agrees with that pointed out by Linnæus for *R. spinosissima*, and that no other Rose grows in similar situations.

Dr. Afzelius, in his *Tentamen primum de Rosis Suecanis*, p. 3, remarks, “that Linnæus himself was at last inclined to unite *R. spinosissima* with *R. pimpinellifolia*; but that in earlier times he certainly was of a different opinion: because *R. pimpinellifolia* is not a native of Sweden, much less is it a plant growing ‘ad agrorum margines eorumque acervos passim;’ nor has it soft fruit. Therefore,” continues he, “we cannot doubt that Linnæus at first intended some other species, which he afterwards seems to have forgotten; at first substituting in its place a Rose ‘germinibus ovatis,’ and afterwards confusing both with *R. pimpinellifolia*.” A little further on, Dr. Afzelius adds, that from an examination of the places pointed out by Linnæus, it appears clearly that the species of *Rosa* called by him *spinosissima*, is one of the many varieties of *R. cinnamomea*. “Itaque,” he proceeds, “hæc erit *R. spinosissima*, Linn. prima et vera, quæ circa Upsaliam et alibi crescit locis indicatis, est frutex parvus surculis caulibusque junioribus spinosissimis, et fructus maturos habet rotundos molles, dulces, rubidos.” This account, if I understand it right, agrees with that of Dr. Wahlenberg: but if this is the case, some difficulty is introduced by the expression “caulibus junioribus spinosissimis;” as the young stems of *R. cinnamomea* are sometimes densely covered with setæ, and in the usual language of botany, as applied to Roses, might be called *rough*; but it seems a considerable license to call them *thorny*. Another unfortunate circumstance with respect to this passage is, that we do not know

know what *Rosa* Dr. Afzelius means to indicate by the name of *R. pimpinellifolia*; and still less is it possible to conjecture what is the *Rosa* "germinibus ovatis," which was according to him first confounded by Linnæus with *R. spinosissima*, and afterwards with that species blended into *R. pimpinellifolia*: but I have only been able to procure the first, second, third, fifth, sixth, seventh, eighth, ninth, and tenth of his *Tentamina*; in the last of which he resumes the consideration of this species, as described in the works of the Swedish botanists previous to Linnæus, and no further. Perhaps, if I had been able to consult the eleventh *Tentamen*, I might have found all difficulties resolved. Be that as it may, the *R. spinosissima* of the Linnæan Herbarium is certainly the English plant, and no variety of *R. cinnamomea*. I can have therefore no doubt in retaining the name, which would be very reluctantly transferred to a plant almost without prickles or thorns.

Willdenow describes *R. pimpinellifolia* as distinct from *R. spinosissima*; as also does Gmelin, *Fl. Bad. Als.* ii. 415: but I cannot understand from either of them in what the difference consists, except in the "aculei sparsi," which is the essential character given by Linnæus, in opposition to the "aculei conferti" of *R. spinosissima*, and is retained by both these authors. Dr. Roth, *Fl. Germ.* i. 217, and ii. 556, seems to acknowledge his inability to ascertain the difference.

4. ROSA INVOLUTA.

R. ebracteata, caulibus setigeris, receptaculis globosis, foliolis duplicato-serratis supra glabris, aculeis confertissimis.

R. involuta. *Fl. Brit.* 1398. *Eng. Bot.* xxix. t. 2068.

Frutex erectus, 2—3-pedalis. *Rami* stricti, fusci, aculeis confertis, strictis, reclinatis vel horizontaliter patentibus, valde inæqualibus, tandem in setas immutatis, muniti. *Petioluli* aculeis reclinatis instructi, glandulosi, sparsim pilosi. *Stipulæ* lineares, glanduloso-ciliatæ, subæquales, sed interdum ex floribus propiores ceteris aliquantulum latiores,

latiores, et etiam in bracteas parvulas immutatae. *Foliola* 9; par superius et foliolum impar ceteris majora, omnia elliptica, duplicato-serrata, subtus venulis hirsuta, supra glabra, nisi interdum nervo quandoque petioli instar pilis sparsis, glandulosa. *Pedunculi* solitarii, rarius binati, setis inæqualibus obsiti. *Receptaculum* globosum, atro-fuscum, setis ut pedunculus munitum. *Calycis foliola* triangulari-lanceolata, integerrima, petala plerumque æquantia, glandulosa, receptaculo pallidiora. *Flores* cyathiformes; petala obcordata, rubescentia, basi albida. *Styli* inclusi; stigmatibus planiusculis. *Fructus* globosus, setosus: maturi colorem nescio.

Scotland, principally on the western coast. Glen Lyon, Rev. J. Stuart, D.D. Isle of Arran, Mr. G. Don.

This Rose is easily distinguished from *R. rubella* and *R. spinosissima*, by the double serratures of the leaflets. From *R. Doniana* it is known with more difficulty; for though I have uniformly found the upper surface of the leaf without hairs in this species, with the exception already noticed in the description, and as uniformly pubescent in the other, yet I feel that it would be unwise to place an entire dependence on this character. Still, however, the expanded flower and comparatively scattered prickles of *R. Doniana* seem to denote an essential difference between the two plants. The root-shoots of *R. Doniana* are indeed very full of aculei, though less so than those of *R. involuta*; and it must carefully be observed as a general rule in the comparison of these and of all other species of *Rosa*, that we must draw the parallel between similar parts:—for instance, in the present case we must compare the strong surculi or root-shoots of *R. involuta* with the surculi of *R. Doniana*, and the branches of the one with the branches of the other; and not conclude that there is no difference if the surculi of *R. Doniana* are as thorny as the weaker branches of *R. involuta*; for in almost all Roses these strong shoots are decidedly more prickly than the rest of the plant.

If the distinctive character between this family of Roses and that of *R. cinnamomea* be drawn from the bracteæ, as I conceive must necessarily be the case, the young botanist may possibly be led by

by it to seek this species of Rose among the last-mentioned family; the permanence of the setæ, and their insensible gradation into aculei, which never occurs among that tribe, will serve to correct the error.

5. *ROSA DONIANA*.

R. ebracteata, caulibus setigeris, calycibus simplicibus, foliolis duplicato-serratis utrinque hirsutis, aculeis strictis inæqualibus sparsis.

Frutex bipedalis; in sepibus Sussexiæ interdum etiam quinquepedalis. *Rami* subdiffusi, fusci, aculeis rectiusculis horizontaliter patentibus, inæqualibus, gracilibus, sparsis, tandem in setas immutatis instructi. *Petiolî* villosi, glandulosi, atque interdum aculeis minimis muniti. *Stipulæ* lanceolato-lineares, glanduloso-serratæ, tomentosæ, subæquales, sed interdum eæ floribus propiores aliquantulum latiores, atque etiam in bracteas parvulas immutatæ. *Foliola* 7 vel 9, elliptica, inflorescentiæ propiora subpauciora, par superius et foliolum impar ceteris majora duplicato-serrata, utrinque villosa, eglandulosa. *Pedunculi* solitarii, cylindracei, setis inæqualibus muniti. *Receptaculum* globosum, fusco-viride, setis fortibus armatum. *Calycis foliola* subulato-lanceolata, elongata, simplicia, vel tantum hic illic laciniâ filiformi instructa, petala æquantia, villosa, setosa, receptaculo viridiora. *Flores* expansi; petala alba, obcordata. *Styli* inclusi, stigmatibus planiusculis. *Fructus* globosus, setosus: maturum non vidi.

Gathered by Mr. G. Don of Forfar, on the mountains of Clova, and by Mr. Borrer by the water of Leith near Collington, also near Albourn and Henfield in Sussex.

I am very happy in the name of this species to have an opportunity of commemorating Mr. G. Don of Forfar, whose ability as an indefatigable investigator of our indigenous botany is well known, unfortunately now exerted no more. Mr. Don first gathered this plant, and distinguished it from *R. involuta*: and it merits observation, that though he relied entirely on the habit of the plant, all his specimens agree precisely with the artificial character I have adopted. Besides the particular differences pointed out under *R. involuta*, Mr. Don observed that the present

species runs less at the roots than the other. This I have not had an opportunity of examining; but the roots of the Sussex plant appear to extend themselves considerably. The mode of growth is certainly much looser and more diffuse.

From *R. gracilis* this species is distinguished by its much smaller size, both in the whole plant and in each part; by its peduncles, almost invariably solitary, and by the total want of the large curved aculei so characteristic of that plant—From *R. Sabini* by the leaflets of the calyx, which in that species are uniformly divided. No other British Rose can be confounded with it.

6. ROSA GRACILIS.

R. ebracteata, caulibus setigeris, calycibus simplicibus, foliolis duplicato-serratis, utrinque hirsutis, aculeis majoribus falcatis.

R. villosa. *Engl. Bot.* ix. t. 583. (excl. Syn. et Fig. fructus.)

Frutex 8—10-pedalis. *Rami* vagi, intense fusci, aculeati, setigerique; aculei majores falcati, subbinato-stipulares; minores recti, sparsi, setas formâ referentes et in has demum sensim transeuntes. *Petioli* villosi, glandulosi, aculeis parvis subfalcatis muniti. *Stipulæ* lineares, acuminatæ, glanduloso-serratæ, glabriusculæ, eæ floribus propiores latiores, et interdum, foliis deficientibus, in bracteas parvas ovatas acuminatas immutatæ. *Foliola* 7 vel 9, par superius et foliolum impar ceteris majora, omnia elliptica, duplicato-serrata, utrinque hirsuta, margine glandulosa, quod interdum etiam subtus in nervo, sed nunquam, ut credo, in superficie paginæ inferioris accidit. *Pedunculi* 1—3, plerumque binati, setis inæqualibus obsiti, hoc qui prior evenit erecto, illo graciliore, longiore, nutante. *Receptaculum* globosum, nunc setis pedunculi instar munitum, nunc totus glaber. *Calycis foliola* triangulari-lanceolata, petala æquantia; rarissime in his conspicitur pinnula filiformis. *Flores* subcyathiformes, petala obcordata, pulcherrime rubescentia, basi alba. *Styli* inclusi, stigmatibus hemisphæricis. *Fructus* globosus: maturum non vidi.

The specimen figured in English Botany was sent by Mr. Robson, probably from the vicinity of Darlington; and I have received it from the same place under the name of *R. villosa*. In 1808 I observed

observed one or two plants of this species at Pooley-Bridge in Cumberland; and again in 1814. At the latter time I likewise gathered specimens from a plant in the neighbourhood of Keswick: but as I have neither seen nor heard of it elsewhere, I conclude it to be a rare plant.

I can hardly have any doubt as to the correctness of the synonym I have quoted. In the Rose figured in *Engl. Bot.* the prickles on the stem, by their number, scattered disposition, and slenderness, appear to indicate what I have called setæ, or at least the small aculei approaching to setæ. This point established, it must belong to the setigerous tribe; and we have only to determine between *R. Doniana*, *R. gracilis*, and *R. Sabini*. Unfortunately the large falcate prickles, the strongest character of *R. gracilis*, are wanting; but this is a circumstance which I conceive may occasionally occur in a single specimen; while on the other hand the size and habit of the plant, the binate peduncles, and the form of the calyx-leaves, induce me to refer it to this species rather than to either of the others, and the place of its growth strengthens this supposition. I am much more confident that the plant of *Engl. Bot.* is not the *R. villosa* of Linnæus, or that of Hudson, or even of the *Flora Britannica*. The description "aculei caulini rariusculi" pointedly disagrees with the figure; and all authors unite in attributing to *R. villosa* "aculei sparsi;" and in this genus Linnæus, from whom the term is borrowed, opposes "sparsi" to "conferti," and uses it to express the comparatively small number of aculei. The term would therefore be quite inapplicable to this plant and to the figure in *Engl. Bot.*, supposing, as would necessarily be the case, the setæ (never before distinguished from the aculei) to be included under the same term. The figure of the fruit, in which the calyx is remarkably compound, appears to have been drawn from a different plant,

2 B 2

probably

probably owing to none having been sent by Mr. Robson with his specimen.

Besides the marks enumerated under *R. Doniana* by which these species may be distinguished, the peculiar length, slenderness, and apparent weakness of the second peduncle of *R. gracilis* may be mentioned. From *R. Sabini* it may be known by the simple leaves of the calyx.

7. ROSA SABINI.

R. ebracteata, caulibus setigeris, receptaculis globosis, calycibus compositis, foliolis duplicato-serratis.

Frutex 4—6-pedalis. *Rami* vagi, fusci, aculeis sparsis, inæqualibus, rectis, tandem in setas immutatis muniti. *Petoli* villosi, glandulosi, aculeati; aculei minimi, recti. *Stipulæ* lineares, glanduloso-ciliatæ, eæ floribus propiores aliquantulum latiores, his folia interdum desunt et bracteæ parvæ ovatæ fiunt. *Foliola* 5 vel 7, quorum par superius et foliolum impar ceteris majora, omnia elliptica, duplicato-serrata, subtus venulosa, venulis hirsutis, interdum etiam nervo et margine glandulosa, superficie quoque superiore pilis sparsis hispidâ. *Pedunculi* 1—3, filiformes, setis inæqualibus obsiti. *Receptaculum* globosum, olivaceum, setis sicut in pedunculis munitum. *Calycis foliola* composita, pinnulis angustissimis, nec raro capillaribus setosa, glandulosaque. *Flores* rubescentes, expansi, magni. *Styli* subinclusi, stigmatibus villosis. *Fructus* globosus: qui sit in maturo color nescio.

Mr. Sabine received this Rose from Mr. Vere's garden, where it was introduced by Mr. Jackson from Scotland. Mr. Borrer found it in the neighbourhood of Dunkeld; and I have noticed it near Hawes-Water in Cumberland.

The setæ will always readily determine the family to which this Rose belongs, if examined on the living plant or in good specimens; but I know no way by which to determine with any certainty specimens of Roses exhibiting only the flowering shoot and two or three leaves. From all other British setigerous Roses *R. Sabini* is distinguished by the divided leaflets of the calyx: the
segments

segments may I believe always be observed if examined with attention; but they are sometimes so strictly capillary as hardly to be distinguished from very large and long setæ.

This Rose does not seem to have been before noticed; I have therefore given to it the name of a gentleman who has long cultivated and investigated the characters, principally of the foreign Roses, with the greatest care. The result of his labours will not I hope be long withheld from the public. It is by his assistance that I am enabled to distinguish this species from all others.

This species and the five preceding form the English portion of the family of *R. spinosissima*. *R. rubella*, *R. spinosissima*, *R. involuta*, *R. Doniana*, *R. gracilis*, and *R. Sabini*, all agree in having persistent setæ on the stems and branches, the stipulæ not increasing in breadth towards the inflorescence, or only in a slight degree, the flowers few together, and the fruit nearly round. I have already mentioned how slight my knowledge is of the exotic species; and perhaps in this subdivision I have fewer materials of comparison than in any other; but considering that the more completely I exhibit my ideas on the subject of the arrangement of the genus, the better chance I have of making my principles understood, I venture to mention *R. kamschatica* as the only foreign addition to the tribe at present known.

8. *ROSA VILLOSA*.

R. receptaculis subglobosis, calycibus simplicibus, aculeis rectiusculis subæqualibus, foliis rhombeo-ellipticis, bracteis ellipticis.

R. villosa. *Linn. Herb. Linn. Sp. Pl.* i. 704? *Willd.* ii. 1069?

R. mollis. *Engl. Bot.* xxxv. t. 2459.

R. pomifera. *C. Gmelin Fl. Bad. Alsat.* ii. 410?

R. glandulosa. *Lam. et Dec. Fl. Fr.* vi. 539?

R. helvetica. *Römer's Arch. b. i. st. 2. p. 6?*

Frutex

Frutex 6—8-pedalis. *Rami* vagi, fusci, juniores glaucescentes, aculeati; aculei recti, graciles, subæquales, plerumque binato-stipulares. *Petoli* tomentosi, glandulosi, aculeisque parvis falcatis muniti. *Stipulæ* lineari-lanceolatae, glanduloso-ciliatae, eæ floribus etiam solitariis propiores latiores, et demum foliis deficientibus in bracteas late ellipticas acuminatas immutatae. *Foliola* 5, rarius 7, par superius et foliolum impar ceteris majora, rhombeo-elliptica, duplicato-serrata, utrinque hirsuta, superne mollissima, subtus rugosa, et præcipue marginem versus glandulosa. *Pedunculi* 1, 2, setis inæqualibus armati, bracteas superantes. *Receptaculum* subglobosum, setis fortioribus, sed paucioribus quam quæ in pedunculo, munitum. *Calycis foliola* simplicia, triangulari-lanceolata, vix petala longitudine æquantia, glandulosa, setosa; fructus reflexa. *Flores* concavi, saturate rubentes, rarius albi maculis sanguineis, vel rubescentes. *Styli* inclusi, stigmatibus convexis. *Fructus* globosus, setosus, ruber.

“Gathered by the late Mr. G. Jackson in Scotland, and by the Rev. Hugh Davies in Wales; also between Edinburgh and Ravelston-Wood. It appears to be not very uncommon in England and Wales.” *Engl. Bot.*

The specimen in the Linnæan Herbarium marked *Rosa villosa* is undoubtedly this species, though the aculei are shorter, stronger, and more curved than I have generally observed them. It is probable that the plant of our gardens which is generally known by that name, and *R. tomentosa*, were included by Linnæus under the same species; but as the existing specimen agrees with the description, as far as that defines any one Rose, I have preferred assigning the name of *R. villosa* to this species, instead of retaining that of *R. mollis*, given in *English Botany*. We may be certain that Linnæus intended the present plant—that he would have included the others is matter of supposition; and when it is found necessary to subdivide an original species, the Herbarium is the best authority to determine which plant shall retain the name at first intended to include the whole. In this case a further argument arises from the uncertainty of the plant intended under this name by other authors, and our inability to distinguish most of them from the numerous varieties of *R. tomentosa*.

On

On examination of the original specimens of *R. mollis* in the Herbarium of Sir J. E. Smith, it appears to me that, of the places of growth mentioned in *Engl. Bot.* Mr. Jackson's only can be safely quoted for this species, and that the others belong to *R. tomentosa*, to which I must also attribute the "*Rosa sylvestris, folio molliter hirsuto, fructu rotundo glabro, calyce et pediculo hispidis*" of Dillenius in *Raii Syn.* 478. The Rev. Hugh Davies observes, that in the plants he finds, the fruit varies from perfect smoothness to every degree of roughness; but as *R. villosa* and *R. tomentosa* have been hitherto described "*fructu hispido*," and both species are liable to vary in that respect, I do not perceive that this observation can at all tend to determine the synonym. It is far more likely to be a smooth-fruited variety of *R. tomentosa* (which certainly occurs in Middlesex and Surrey), than the present species, which we have no reason to suppose was ever found in those counties.

I have drawn up the description of this plant from a specimen gathered in Mr. Vere's garden at Kensington, in September 1814, and from another gathered in Mr. Sabine's garden at North Mims in June 1815. These two plants proceeded originally I understand from the same root.

I have already observed, that in most of our Roses the earlier leaves of each sort are obtuse: this species seems to have a greater quantity of these leaves than most others.

A plant agreeing closely with these specimens is sold by Lee and by Loddiges under the name of *R. villosa*, except that the aculei are stronger and slightly curved, approaching therefore more closely to the plant of the Linnæan Herbarium: but though the general character of the aculei is of the greatest consequence, I do not find these minute differences much to be depended upon.

Though

Though very downy, the leaves of this Rose are generally green above; but I have specimens which are considerably gray. Mr. Sabine has a plant from Mr. G. Don, which differs from this only in a harsher pubescence.

β. cærulea. Fruit and peduncle nearly smooth; flowers bluish-red. The glaucous waxiness of the young shoots is very conspicuous and very beautiful in this variety: the leaves are more glandular, the bractæ are in general smaller, and the habit is more slender than in *α*. The plant from whence I have taken this account was sent from Scotland, by Mr. G. Jackson, to Mr. Vere's garden, and from thence received by Mr. Sabine; but I have specimens nearly similar collected by Mr. Robertson near Newcastle, and by Mr. D. Turner at Killin; and I have met with it myself in Friar's Wood, near Ingleton.

γ. concavifolia. Leaflets remarkably concave, or conduplicate and hoary. Bractæ lanceolato-ovate; receptacle globose. Scotland, Mr. Borrer.

δ. suberecta. Fruit globose, that and the petiole furnished with strong setæ; flowers deep red. Stems stiff and upright; leaflets 7, sometimes 9, elliptic, concave; stem, petioles, stipulæ, young prickles, and midrib, of a vinous red. The general appearance of this variety is such as to make me wish to consider it as a distinct species; but I have not been able to fix on any good character. In smell, in the abundance of glands underneath the leaves, and even in habit, it approaches somewhat to *R. Eglantheria*; it is not however entirely free from the turpentine flavour which accompanies all

all this family; and the straight prickles render it impossible to mistake it for that species. If distinct, its place would be before *R. villosa*, as nearer to the family of *R. spinosissima*. The stipulæ are almost membranous, which would form an excellent character if it should be found constant. I have only seen it in one place, on a rocky limestone bank at Ingleton in Yorkshire; and at that time I was so puzzled by the multifarious appearance of the specimens I had collected, and which I had not had opportunity to arrange, that I did not pay it the attention it merited, and only preserved a single specimen.

It is with considerable doubt that I have quoted *R. pomifera*, *Fl. Bad. Alsat.*, as a synonym of this species. The author says, that sometimes two of the calyx-leaflets are divided, which might have induced me to refer it to *R. scabriuscula*; especially as the name seems to indicate a large-fruited Rose; and the fruit of *R. scabriuscula* is occasionally very large; but in other respects it does not agree with that plant.

I hesitate still more whether *R. glandulosa*, *Lam. et Dec. Fl. Fr.* vi. 539, ought to be considered as a smooth variety of this plant: it certainly approaches very near to it, except in the pubescence.

Rosa helvetica, *Römer's Archiv. für die Botanik*, is perhaps a dwarf variety of this species. Here again the description "*foliolis glabris inodoris*" renders it very doubtful.

9. ROSA SCABRIUSCULA.

R. receptaculis ellipticis, calycibus subsimplicibus, bracteis ellipticis, aculeis rectiusculis subæqualibus, foliolis anguste ellipticis duplicato-serratis.

R. scabriuscula. *Engl. Bot.* xxvii. t. 1896. *Winch Bot. Guide*, ii. Pr. p. 5.

Frutex 4—6-pedalis. *Rami* vagi, fusco-olivacei, aculeati; aculei recti, gracilis omnis qui in situ eodem ejusdem fere magnitudinis, plerumque binato-stipulares, sed sparsi quoque inveniuntur. *Petoli* tomentosi, glandulosi, aculeisque minimis rectis muniti. *Stipulæ* lineares, glanduloso-ciliatæ, eæ floribus propiores latiores, et demum foliis deficientibus in bracteas ellipticas acuminatas immutatæ. *Foliola* 5 rarius 7, par superius et foliolum impar ceteris majora, elliptica, vel potius in meis speciminibus oblongo-elliptica, duplicato-serrata, utrinque hirsuta, mollissima, subtus præcipue marginem versus glandulosa. *Pedunculi* 1—3, setis debilibus plerumque armati, interdum toti glabri, bracteas longitudine subæquantæ. *Receptaculum* ellipticum, nunc setis aliquot fortioribus quam quæ in pedunculo munitum, nunc glaberrimum. *Calycis foliola* subpinnata, triangulari-lanceolata, petala vix æquantia, glandulosa, fructûs erecta. *Flores* concavi; petala alba, maculis sanguineis gemmæ persistentibus. *Styli* inclusi, stigmatibus convexis. *Fructus* magnus, subglobosus, ruber.

Found by Mr. Winch in hedges in Durham and Northumberland. *Engl. Bot.* Banks of the Dee, and on the side of Loch Tay, Mr. G. Anderson. Friar's Wood, near Ingleton.

If I were not fortified by the authority of Sir J. E. Smith and of Mr. Borrer, I should hardly venture to describe as a distinct species a plant so nearly approaching to some varieties of *R. tomentosa*. The calyx-leaflets, indeed, though always in some degree pinnate, are never, as far as I have observed, completely furnished with offsets on each division as they are in that plant. In this respect it varies exceedingly, approaching however nearer to the compound calyx of *R. tomentosa* than to the simple one of *R. villosa*. On this character, such as it is, the specific distinction must principally rest; for the shape of the receptacle and leaflets, though sufficiently distinct in some specimens, still varies so much in this tribe of Roses that I dare not place much reliance on it. Still less can I depend on the greenness and harshness of the pubescence, the characters by which this Rose is
more

more particularly pointed out in *Engl. Bot.*; as the specimens which I have received from Mr. Winch, the original discoverer, are hoary with a velvety down, and exceedingly soft on both sides—perhaps even more so than is usual in any other species; and those which I have gathered myself agree with them in this as in every other particular. Mr. Winch also in his *Botanist's Guide* describes the leaflets as densely covered with down. I have reason to believe that the plants gathered by Sir J. E. Smith near St. Edmund's Bury, which in *Engl. Bot.* are attributed to this species, rather belong to *R. tomentosa* of this essay. The extreme variableness of this latter species (the Rose I have had the most opportunities of examining under different circumstances) induces me however to attach very little importance to this peculiarity in the pubescence.

10. *ROSA HETEROPHYLLA*.

R. receptaculis subglobosis, calycibus subcompositis, aculeis rectiusculis subæqualibus, bracteis lanceolatis.

Frutex 7—9-pedalis. *Rami* vagi, pallide fusco-olivacei, aculeati; aculei subfalcati 1, 2, v. 3 singula ad internodia caulis, plerumque ad basin foliorum. *Petoli* tomentosi, glandulosi, rarissime hic illic aculeo minimo recto muniti. *Stipulæ* lineares, acutæ, tomentosæ, glanduloso-serratæ, interdum pagina inferiore glandulosæ; ex floribus proximæ vix ceteris latiores, quanquam interdum deficient folia. *Foliola* 5 v. 7, par superius et foliolum impar ceteris majora, nunc elliptica, nunc forma obovato-oblonga, basi rotundata, insigniter variantia, duplicato-serrata, utrinque molliter hirsuta, glandulosa. *Pedunculi* 1 v. 2, nunc glabri, nunc setis inæqualibus obsiti, bracteis æquantes vel eas superantes. *Receptaculum* subglobosum, nunc glabrum nunc setosum, setis fortioribus quam quæ in pedunculo inveniuntur munitum. *Calycis foliola* pinnata vel subpinnata, petalis longiora, basi setosa, sursum glandulosa. *Flores* expansos non vidi; petala alba sanguineo-maculata. *Styli* inclusi, stigmatibus convexis. *Fructus* globosus.

Found by Mr. W. Borrer at Collington near Edinburgh, and elsewhere in that neighbourhood; also at Finlarig.

I do not find any description to which this Rose can be referred. It seems to be called *R. villosa* by the Scotch botanists; but that name being appropriated to another species, I have given to the present plant the name of *R. heterophylla*, expressive of a character which it usually presents, and which gives to it a certain peculiarity of habit when compared with any other British species.

The Roses most nearly allied to this are *R. villosa*, *R. scabriuscula*, and *R. tomentosa*. From the first and last of these a proper attention to the leaflets of the calyx will distinguish it; and from *R. scabriuscula*, as well as from the two others, the remarkable shape frequently occurring in the leaflet, and the narrow bractæ.

11. ROSA PULCHELLA.

R. receptaculis obovatis, calycibus compositis, aculeis rectiusculis subæqualibus, petalis margine crenatis.

Frutex 1½—2-pedalis. *Rami* subflexuosi, erecti, fusci, aculeati; aculei subfalcati, graciles, subæquales, plerumque binato-stipulares. *Petioles* tomentosi, glandulosi, aculeisque gracilibus falcatis muniti. *Stipulæ* lineares, glanduloso-ciliatæ, pagina inferiore glandulosæ, eæ floribus propiores latiores, sed bracteam perfectam nondum vidi. *Foliola* 5 v. 7, par superius et foliolium impar ceteris majora, elliptica, concava, duplicato-serrata, utrinque hirsuta, subtus glandulosa. *Pedunculi* pauci, setis inæqualibus obsiti, stipulas proximas superantes. *Receptaculum* obovatum, glabrum. *Calycis foliola* pinnata, petalis breviora, glandulosa. *Flores* concavi, petala saturate rubentia, margine glanduloso-crenata. *Styli*—*Fructus*: Has partes non potui satis examinare.

On limestone banks at Ingleton in Yorkshire.

Like the foregoing, this Rose seems to have been unnoticed by preceding authors. It is easily discriminated by its crenate petals from all other British Roses: but this character it may be difficult to determine in the Herbarium, as the petals of Roses are apt to fall off, and when preserved generally shrivel very much in drying. The shape of the receptacle and the shortness
of

of the calyx-leaflets appear also to be characters worthy of attention; but I have seen too little of it to be able to point out the variations to which it is most subject. The size and habit of the plant, the shape of the receptacle and that of the leaflets, will distinguish this from the common *Apple Rose* of the gardens; a species with which it would be ridiculous to compare it, were it not for the singular circumstance of the crenate petals—a character which, as far as my knowledge extends, is not to be met with in any other species of this genus.

12. *ROSA TOMENTOSA*.

R. calycibus compositis, aculeis rectiusculis subæqualibus, petalis integerrimis, bracteis ellipticis, foliolis duplicato-serratis.

R. tomentosa. *Fl. Br.* ii. 539. *Engl. Bot.* xiv. t. 990. *Lam. et Dec. Fl. Fr.* iv. 440.

R. villosa. *Huds. Fl. Angl. ed.* ii. p. 219. *Lam. et Dec. Fl. Fr.* iv. 440. *Roth Fl. Germ.* i. 217. & ii. 556.

R. Reynieri. *Römer's Archiv. B.* i. St. 2. p. 7.

Rosa sylvestris pomifera major nostras. *Raii Synop.* 455.

Frutex 6—8-pedalis. *Rami* vagi, fusco-olivacei, aculeati; aculei rectiusculi, graciles, subbinato-stipulares: sparsi quoque hic illic inveniuntur. *Petiolii* tomentosi, setosi, aculeisque leviter falcatis muniti. *Stipulæ* lineares, tomentosæ, glanduloso-ciliatæ, paginaque inferiore sæpius glandulosæ; eæ floribus etiam solitariis propiores latiores, et demum foliis deficientibus in bracteas ovatas acuminatas immutatæ. *Foliola* 5 v. 7, par superius et foliolum impar ceteris majora, elliptica, apice triangulari-acuto, utrinque tomentosa, duplicato-serrata, subtus nunc tota superficie, nunc margine, venisve tantum glandulosa. *Pedunculi* 1—4, setis inæqualibus obsiti, bracteis breviores. *Receptaculum* plus minusve ellipticum, subfuscum, setis laxius sparsis quam sunt calyx et pedunculus munitum. *Calycis foliola* triangulari-elliptica, acuminata, setosa, pinnata, pinnis inciso-serratis, glandulosis, foliolum semipinnatum, pinnam solitariam tantum plerumque habet. *Flores* planiusculi; petala basi alba, margine integerrima, nunc intense rubella, sæpius rubescentia, nunc tota alba, nunc alba maculis sanguineis externe notata, gemma sanguinea. *Styli* inclusi, stigmatibus planiusculis vel parum convexis. *Fructus* late ellipticus, ruber.

Common

Common in hedges and bushy places throughout Great Britain.

I rely upon the shape of the leaflet and the entire margin of the petals, to distinguish this Rose from the *R. villosa* of the gardens, whose petals are crenate, a character pointed out to me by Mr. W. J. Hooker; and somewhat also on the smaller and less globular fruit: on the bracteæ, and on the shape of the leaflets, to separate it from *R. heterophylla*: on the entire margin of the petals, to mark it from *R. pulchella*; and on the very pinnate leaflets of the calyx, to divide it from *R. villosa* and *R. scabriuscula*. The plant thus discriminated includes so many varieties, or perhaps species, that it is certainly the most intricate of the genus. It undoubtedly embraces the *R. villosa* of Hudson, and the *Rosa sylvestris pomifera major nostras* of Ray, which has usually been quoted as a synonym of *R. villosa*. I should also feel confident that it included the *Rosa villosa* of the *Flora Britannica*, if the learned author had not assured me that that description was drawn up from the plant commonly known under the name of *R. villosa* in our gardens:—that, however, we have no reason to suppose a native of this country, though perhaps in the present state of our knowledge we should find it difficult to trace it to any other.

The characters proposed by British botanists to distinguish *R. villosa* from *R. tomentosa*, viz. the small ovate fruit and hooked prickles, do not by any means regularly go together. The size and shape of the receptacle and fruit vary much, as may be sufficiently seen in the ensuing catalogue of varieties; and even under that appearance from which I have drawn my description, indeed on the same bush, they may be observed large or small, more or less elliptic, more or less covered with setæ, or quite naked. The average shape in α is however wider than in
some

some of the varieties; and perhaps ν and ξ , in which they are remarkably elongated, might be taken for the *Rosa tomentosa* of the *Fl. Br.*; and the figure in *English Botany* is not very different from those varieties. Ray, however, says nothing of the curved aculei of his *R. sylvestris fructu majore hispido*, the synonym quoted by Sir J. E. Smith; while, on the contrary, he describes the fruit of *R. sylvestris pomifera major* "fructus pyri parvi forma et magnitudine"—a description which appears exaggerated if applied to *R. tomentosa* η of this essay, but which agrees with that variety better than with any other; but perhaps still better with an appearance sometimes met with in *R. scabriuscula*. Ray adds "spinulis obsiti;" a description which altogether does not agree with any fruit I have seen; but which we may easily perceive cannot indicate the same thing as the "germen globosum" of Linnæus; especially if we consider that in this family the fruit is uniformly rounder than the immature receptacle. Hudson has merely joined the synonym of Ray to his *R. villosa* β , without adding any remark of his own to either variety. Lightfoot, *Fl. Scot.* i. 261, has added, that the fruit is black when ripe; a circumstance which renders his species very doubtful.

In such a labyrinth what is the course to be pursued? I have already mentioned in the account of *R. villosa*, that in the appropriation of that name I have followed the Linnæan Herbarium. *R. tomentosa* is therefore left for this; and as the name cannot reasonably be objected to in a genus where it is so difficult to find names at all characteristic, and as some of the varieties are already well known under this name, I cannot hesitate to preserve it. The synonyms above quoted do not appear to me at all doubtful as to the species; but I have not attempted the difficult, or rather impracticable, task of determining the correspondence

dence between my varieties and the varieties or species of preceding authors.

I have made several attempts to form such an arrangement of the varieties of this Rose as might keep together those plants whose natural character would point out the probability of their constituting distinct species, and separate those whose habit seemed to announce important differences. This attempt has failed; but I believe in the following list the order adopted is not far from a natural series. If the botanist who knows the species be able to assign to the specimens he collects their place among these varieties, my object will be attained.

I have here been obliged to use the word *hirsutus* rather than *setosus* to the arms of the peduncle and receptacle, in order to include the variety α , which has a downy peduncle without either glands or setæ, while yet it is characterized by a receptacle smoother than the peduncle.

β . differs from α only in having the upper pagina of the leaf entirely smooth. Ambleside, Westmoreland.

γ . Leaves smooth on both sides. By the road on the north side of Loch Tay, Mr. W. Borrer.

δ . has a rounder leaflet than α , with scattered hairs on the upper surface, and scattered hairs and glands on the under; the nerves on the underside of the leaf are thickly clothed with hairs somewhat spreading; petals white. The earliest flowers in this variety frequently have the leaflets of the calyx entirely simple, nearly linear, and expanded at the end: the latter peculiarity, where it exists in a remarkable degree, though pointed out in *English Botany* as a character of the *R. mollis* of that work, appears to me a sure indication of an unnatural or imperfect state of inflorescence. Dunkeld, Mr. W. Borrer.

ϵ . Fruit

6. Fruit subglobose; receptacle frequently elliptical; peduncles sometimes extending beyond the bractæ, from one to eight or nine in a cyme; petals blush-coloured, white at the base; prickles falcate; leaflets very soft, without glands, except on the nerves and serratures. Near Newcastle, Mr. Robertson. Tunbridge Wells, Penshurst, Stoke Newington, and Ulverstone.

7. *hybrida*. The leaves of this plant are green, not white with down, hairy underneath, and rough with glands; receptacle as setose as the peduncle; aculei falcate. Pointed out to me by Mr. Sabine under the name of *R. hybrida*. I have observed a similar Rose near Keswick, and also in the neighbourhood of Godstone in Surrey. Mr. Borrer has specimens much resembling it from Scotland, in which the receptacle is globose.

8. Receptacle large, olive-coloured, attenuated at the base, less setose than the peduncles; peduncles one to four, furnished with weak setæ; leaflets rough, with glands on the underside, except those on the young shoots which are very soft and downy; the aculei vary very much, some even on the strong stems being quite straight, while in general, even on the young branches, they are considerably curved; whereas in this genus the root-shoots have usually the prickles stronger and more curved than the branches. This variety of *R. tomentosa* bears a considerable degree of resemblance to two other very distinct species, *R. micrantha* and *R. Borreri*, and at the same time in general appearance is not very different from the variety 1; I have only seen three plants; two between Down and Holwood in Kent in July 1815, both of which at first sight I took for *R. micrantha*, until the thorns, which are never

uncinate as in that plant, and the downiness of the young leaves undeceived me; and one near Potter's Bar in Hertfordshire, in the autumn of 1814, which I supposed at that time to be *R. Borreri*. The latter had eight ripe fruit, having probably had at least twelve flowers in a cyme; on the others I could not find more than four.

9. Receptacle elliptical, as setose as the flowerstalk; peduncles often longer than the bractæ; leaves densely villous, glandular underneath. Sent by Mr. G. Don to Mr. Sabine under the name of *R. mollis*.

ι. *sylvestris*. Receptacle a long ellipsis, as setose as the peduncle; peduncle shorter than the bractæ; aculei falcate; leaflets narrower than in α, slightly pubescent above, hairy and rough with glands on the under side; surculi dark purple. Received by Mr. Sabine from Mr. Donn of Cambridge.

κ. *canescens*. Receptacle broadly elliptical, nearly smooth; aculei slender, but slightly curved; leaflets elliptic, oblong, concave, very soft, white, with down on both sides, glandular beneath. The calyx-leaflets of this variety are very much divided, and have a strong tendency to grow out into leaves; in some of the early flowers they are, however, nearly simple, with only a few laciniae, broad at the base, lying in a direction parallel to that of the leaflets. Stock Gill and Kentmer, Westmoreland, and Pooley-Bridge, Cumberland.

λ. Receptacle broadly elliptical, somewhat attenuated at the base, less setose than the peduncle; aculei falcate; has much the habit of the following variety. Gathered by Mr. Borrer in Scotland in 1810.

μ. Peduncles as long or longer than the bractæ; receptacle as setose as the peduncle, and generally somewhat attenuated

at

at the base ; offsets of the calyx-leaflets remarkably short and broad ; petals white with red blotches ; leaves somewhat concave. Highlands, Mr. W. Borrer.

ν. Receptacle elliptical, attenuated at each end ; peduncle longer than the bractæ ; aculei falcate ; leaflets narrower than in α, with a few hairs above, hairy and glandular beneath like the variety η. This seems to have some affinity with *R. micrantha*, but in a different way. The principal peculiarities are in the long peduncles, in the aculei, which, though never uncinate as in *R. micrantha*, are yet more constantly curved than in most of the preceding varieties of *R. tomentosa*, and in the narrow leaflets. It sometimes approaches in scent to *R. Eglantheria* ; and the first time I gathered it in this state I did not doubt that I had found the American sweet-briar, *R. suaveolens* of Rees's *Cyclopædia*. The upper surface of the leaves is sometimes almost smooth, at others quite soft and downy ; both sides are occasionally densely pubescent. Near Henfield in Sussex, Mr. W. Borrer. Kent, Surrey, and Middlesex.

ξ. differs from ν only in the want of glands on the under surface of the leaves, excepting occasionally on the nerve. Like that variety it is sometimes almost smooth, sometimes densely pubescent. Near Durham, Mr. Robertson. Lancashire, Westmoreland, and Middlesex.

ο. *incana*. Receptacle elliptical, smooth ; calyx-leaflets downy, without glands ; peduncle with only a few hairs ; aculei falcate ; young shoots purple-gray ; leaflets narrower than in α, with a hoary pubescence, without glands ; but the colour is less striking than that of the variety ζ. Stipulæ also downy and without glands. Sent from Scotland by Mr. G. Don to

Mr. Sabine, in whose garden is the only plant I have ever seen.

Perhaps of these varieties ζ may be a distinct species; ϑ and ι may possibly form another; η a fourth; and ν and ξ a fifth; and \omicron a sixth: this would seem a very great multiplication of species, and it would be extremely difficult to find for them any specific characters. Another obstacle to considering these as six species, arises from the great number of other varieties, which after repeated examinations I found myself unable to class with any one of them, and of which the distinctions are nevertheless exceedingly trifling. I have therefore above detailed the account of these, in hopes of exciting the attention of some botanist whose talents and opportunities will enable him to do more justice to the tribe.

To some one or other of these varieties we must probably attribute the *Rosa mollissima*, Gm. *Fl. Bad. Als.*; but in a genus so intricate, and with descriptions so defective as have hitherto been given of the Roses, I find the difficulty exceedingly great of assigning the synonyms of preceding authors to the proper species, and utterly impossible to trace them to their corresponding varieties.

The description of *R. montana*, Lam. et Dec. *Fl. Fr.* vi. 532, would induce me to join it to this species; but Willdenow, *Sp. Pl.* ii. 1076, refers the original plant of Villars, which is quoted also by Lamarck and Decandolle, to a Rose with hooked prickles ("aculeis uncinatis"), and which would agree tolerably well with *R. Borreri*. Among these inconsistencies I pretend not to decide what Villars intended, or what plant was meant by the French and German authors.

R. fatida, Lam. et Dec. *Fl. Fr.* vi. 534, may perhaps be *R. tomentosa* β ; but the authors compare it at once with *R. collina* and their

their own *R. tomentosa*, two very different plants. "Aiguillons un peu courbés" is a character hardly inconsistent with any variety of this plant; though in some they are frequently to be met with quite straight. The fruit is said to give a fœtid smell when rubbed; a quality I have never had the opportunity of observing.

To the same variety, or to γ , we may perhaps refer *Rosa andegavensis* of the same work, vi. 539. It agrees very well with the usual appearances of this species, except in the pubescence.

13. ROSA NUDA.

R. receptaculis globosis, calycibus compositis, aculeis rectiusculis, foliolis simpliciter serratis.

Frutex 5—7-pedalis. *Rami* diffusi, e fusco glaucescentes, aculeati; aculei subæquales, rectiusculi, sparsi, vel binato-stipulares. *Petoli* nunc glabri nunc glandulosi, absque aculeis vel tomento; pili tamen, ad axillas foliolorum siti, sunt in hac specie perconspicui. *Stipulæ* lineares, apice serratæ, eæ floribus etiam solitariis propiores ceteris multo majores. *Foliola* 5 vel 7, par superius et foliolum impar ceteris majora elliptica, acute et irregulariter sed simpliciter serrata, utrinque glabra. *Pedunculi* pauci, breves, glabri. *Receptaculum* globosum, viride, glabrum. *Calycis foliola* divisa, pinnis integerrimis. *Flores* rubescentes. *Styli* vix inclusi, stigmatibus in conum collectis. *Fructus* globosus: maturum non vidi.

Near Ambleside in Westmoreland.

No Rose hitherto published can be quoted as a synonym of this species; or at least its most remarkable peculiarity, the union of straight aculei unmixed with setæ, with smooth leaves furnished only with simple serratures, has never been noticed. Perhaps, however, I shall hardly be considered justifiable in admitting it in the enumeration of species, since I have only one specimen, which was gathered without particular notice among others from the hedges on the side of the road between Ambleside and Clappersgate. Had I known with what species to join it,

it, it would not have obtained a place by itself: its nearest affinity is probably *R. tomentosa*, from which however the peculiarities above remarked separate it widely. The petiole and the midrib of the leaflets are usually of a reddish or purplish hue; and in these circumstances, and perhaps also in habit, it is somewhat allied to the *R. rubrifolia* of Villars. That Rose, however, claims a nearer affinity with *R. casia*; but I should suppose, from the descriptions I have met with, that the aculei are straighter and the serratures more simple than in that species.

This Rose concludes the account of the British Roses of this family, consisting of six species; viz. *R. villosa*, *R. heterophylla*, *R. scabriuscula*, *R. pulchella*, *R. tomentosa*, and *R. nuda*: it is characterized by the want of setæ on the stems; the stipulæ changing more or less into bracteæ; and by aculei nearly straight, or at least not uncinatæ.

14. ROSA EGLANTERIA.

R. fructibus obovatis, aculeis inæqualibus majoribus uncinatis, foliolis hirsutis subtus glandulosis duplicato-serratis.

R. Eglanteria. *Sp. Pl. ed. i.* 491. *Hudson*, 218. *Encycl. Méthodique*, 286.

R. rubiginosa. *Mant. ii.* 564. *Willd. ii.* 1073. *Flora Br. ii.* 540. *Engl. Bot. iv. t.* 991. *Lam. et Dec. Fl. Fr. iv.* 445. *Roth Fl. Germ. i.* 218. & *ii.* 558. *Jacq. Fl. Aust. i.* 31. *t.* 50.

R. suavifolia. *Fl. Dan. t.* 870?

R. sylvestris odora. *Raii Synops.* 454.

Frutex 4—7-pedalis. Rami suberecti, virides, juniores fuscescentes, aculeati; aculei valde inæquales, majores uncinati, minores rectiores, minimi rectissimi, sed nunquam ut credo in setas immutati; aculei majores interdum binato-stipulares, ceteri semper sine ordine sparsi. Petioli tomentosi, glandulosi, aculeis falcatis instructi: deficiunt setæ. Stipulæ lineares, glandulis tenerrime serratæ, vel potius ciliatæ, eæ floribus

ribus propiores foliis deficientibus in bracteas immutatæ, quarum forma incerta. *Foliola* 5 vel 7, par superius et foliolum impar ceteris majora, elliptica, suprâ hirta, subtus pilis glandulisque odoriferis vestita, serraturis serrulatis glanduliferisque. *Pedunculi* 1—11, setis inæqualibus obsiti, quarum paucae interdum faciem aculeorum æmulant. *Receptaculum* primitivum obovatum, cetera plerumque elliptica, omnia fusca, setis sparsis munita; setæ longiores fortioresque aculeos simulantes receptaculi ad basin inveniuntur. *Calycis foliola* triangulari-ovata, longius acuminata, pinnata; pinnæ lineari-lanceolatæ, glanduloso-dentatæ. *Flores* concavi; petala rubella. *Styli* inclusi; stigmata convexa, villosa. *Fructus* primitivus obovatus, ceteri obovati vel elliptici, omnes setis fortibus basi armati, rubri, demum maturitate sanguinei.

In bushy places on a dry soil in Kent, Sussex, and Surrey. Sometimes very abundant on the chalky banks in those counties.

β . is a variety in which the larger aculei are falcate, not uncinatæ; and which seems to want the character arising from the increased magnitude of the setæ at the base of the germen. This may possibly be a distinct species.

The only Rose of our country which can be confounded with this is *R. micrantha*; and occasionally, when the latter grows in exposed situations, or when *R. Eglanteria* is found (which is rarely the case) in moist hedges, the eye will not immediately distinguish them. In general, however, *R. Eglanteria* is a stiff, compact, upright bush; *R. micrantha*, a loose straggling briar. In all cases the central flower of the cyme, the one which is first expanded, is followed by an obovate or pyriform fruit in the former species; while in the latter the fruit is at most only elliptical, and almost always terminating in something of a neck,—a distinction first pointed out in *Engl. Bot.*, and well marked in the figures of the two plants. Another equally constant character is derived from the aculei, which in *R. micrantha* are in general merely binatostipulary, with a few others scattered without order on the branches—all nearly of a size, and never intermixed with a multitude of smaller

smaller ones. In *R. Eglantheria* the aculei of the shoots, and frequently those of the branches, are mixed with scattered prickles of all sizes; though in small specimens this character may sometimes be wanting. In both species a few setæ may occasionally be noticed on the stem immediately below the inflorescence; but these seem to be merely accidental.

Mr. Borrer found a Rose in Normandy nearly allied to this, and most resembling the variety β ; and Mr. Hooker brought specimens of the same from the South of France; but it has not been described by the French botanists, or at least I cannot appropriate to it any of their descriptions.

This Rose has been very unfortunate in its name; it is called *eglantina*, *eglentina*, and *esglentina*, by Bauhin and the early botanists. Linnæus in his first edition of the *Species Plantarum* called it *R. Eglantheria*; but in the second he transferred that name to the single yellow Rose, still however quoting the same synonyms, all of which clearly belong to this plant. And this species is not given, nor does the name of *R. rubiginosa* occur, until the publication of the *Mantissa Plantarum altera*: indeed it seems as if Linnæus at one time confounded the two species, misled merely by the circumstance of the glandular and fragrant leaf, which is almost the only character not common to the whole genus, in which these two Roses agree. Notwithstanding *R. rubiginosa* has been adopted by most of the modern botanists, I have ventured to restore the name originally given by Linnæus, in which I am supported by the authority of Hudson and of Poiret, *Encycl. Nat.* The yellow Rose, which is not a British plant, has latterly been more properly named *R. lutea*, from the hue, which is very rare in flowers of this genus.

15. *ROSA MICRANTHA*.

R. fructibus ampullaceo-ellipticis, aculeis aduncis subæqualibus, foliolis hirsutis subtus glandulosis duplicato-serratis.

R. micrantha. Engl. Bot. xxxv. t. 2490.

Frutex 5—8-pedalis. *Rami* diffusi, virides vel fusco-virides, aculeati; aculei adunci, nunc sparsi, nunc binato-stipulares. *Petoli* tomentosi, glandulosi, aculeisque rectiusculis vel falcatis muniti. *Stipulae* lineares, glanduloso-serratae, interdum subtus glandulosae, ex floribus propiores solitariae vix ceteris latiores, cymarum tandem foliis deficientibus in bracteas lanceolatas acuminatas immutatae. *Foliola* 5 vel 7, par superius et foliolum impar ceteris majora, elliptica, duplicato-serrata, supra vix hirta, subtus pilis glandulisque odoriferis vestita. *Pedunculi* 1—11, setis obsiti, quarum nonnullae, rarissime tamen, aculeiformes. *Receptaculum* ellipticum, fuscum, setis sparsis praecipue basi munitum. *Calycis foliola* glandulosa, pinnata, pinnis lanceolatis glanduloso-ciliatis. *Flores* cyathiformes, rubescentes. *Styli* inclusi; stigmata planiuscula. *Fructus* parvus coccineus, interdum ellipticus, sed saepius plus minusve urceolatus.

Hedges and bushy places in the southern and midland counties.

This species was first established by Sir J. E. Smith in *English Botany*. Its closest affinity is certainly to *R. Eglantheria*; and I have already pointed out under that Rose the characters by which these species are best discriminated. I may add, that the present plant uniformly wants the strong setae at the base of the fruit, which I have constantly found in *R. Eglantheria*, except in the rare variety β , which in most other respects assumes an appearance directly opposite to *R. micrantha*. The habit of this species is indeed so loose and straggling, that an inattentive observer might pass it over as a variety of *R. canina*. The fruit is always small, and never has the pear-shaped form of the primordial fruit of *R. Eglantheria*; the flowers are also generally smaller, but this is an uncertain mark. The scent varies exceedingly, being sometimes very weak, at other times not to be distinguished from that of *R. Eglantheria*, and once or twice I have observed the turpentine flavour which is generally to be perceived

in the family of *R. tomentosa*. *R. micrantha* has also considerable affinity with *R. Borreri*: it may however be distinguished from that species by the much stronger and more numerous setæ of the peduncle generally extending on the fruit, by the narrower pinnæ of the calyx, and by the glands covering the whole under surface of the leaf; the general colour of the plant is also a paler and yellower green.

R. sempervirens, Roth *Fl. Germ.* i. 218. ii. 556; *R. umbellata*, Lam. et Dec. *Fl. Fr.* vi. 532, seems to be allied to this plant, but can hardly be identified either with this or with *R. Eglanteria*. It might be expected that the Rose mentioned in the account of *R. Eglanteria* as having been gathered by Mr. Borrer and Mr. Hooker in different parts of France, would be found among the descriptions of the French botanists; but I cannot refer it with confidence either to *R. sepium* or *R. umbellata*. If distinct, we may consider this subdivision of the large family of *R. canina*, distinguished by compound serratures and glands under the whole surface of the leaf, as composed of four species; *R. Eglanteria*, *R. micrantha*, *R. umbellata*, and one yet unnamed. I dare not at present admit *R. sepium* among the number.

16. ROSA BORRERI.

R. receptaculis ellipticis, pinnis calycinis confertis, aculeis uncinatis subæqualibus, foliolis hirsutis eglandulosis duplicato-serratis.

R. dumetorum. Engl. Bot. xxxvi. t. 2579.

Frutex 6—10-pedalis. *Rami* diffusi, olivacei, aculeati; aculei uncinati, subæquales, plerumque stipulares, binati vel solitarii. *Petioles* tomentosi, glandulosi, aculeisque fortibus uncinatis muniti. *Stipulæ* lineares, glanduloso-serratae, pagina inferiore haud glandulosæ, eæ floribus etiam solitariis propiores latiores, cymarum demum foliis deficientibus in bracteas ovato-lanceolatas acuminatas immutatae. *Foliola* 7, intense viridia, lucentia, par superius et foliolum impar ceteris majora, impar quoque foliolis paris

paris superioris semper latius ; nunc ovato-elliptica, nunc rhombeo-elliptica, plana, duplicato-serrata, serraturis glandulosis, paginis ambabus plerumque hirsutis sed semper inferiore. *Pedunculi* 1—16, modo setis debilibus, nunc pilis albis sparsis, et nunc pubescentiâ densâ, instructi, bracteis breviores. *Receptaculum* ellipticum, obscure fuscum, glabrum. *Calycis foliola* triangulari-elliptica, composita, pinnis confertis, lanceolatis, vel ovato-lanceolatis, incisis, glanduloso-serratis. *Flores* incarnati vel rubescentes. *Styli* inclusi ; stigmata planiuscula. *Fructus* ellipticus, rarius subglobosus, intense ruber.

Hedges and thickets, not uncommon.

β. Leaves hoary, with pubescence on both sides. Near Edinburgh, Mr. Borrer.

The leaves of this species are generally of a very dark colour, and always remarkably flat ; the young leaves are tender at the edge, and frequently tinged with purple. This character it has in common with *R. dumetorum* and *R. surculosa* ; but both these plants have simple serratures ; and these marks, as well as the peculiar breadth of the terminal leaflet, may assist the investigator, in addition to the specific character and to the particularities already pointed out under *R. micrantha*, in distinguishing it from that species : from which, notwithstanding its affinity, it also strikingly differs in general habit. The irregularity of the serratures in *R. collina* may sometimes create a difficulty between this and that species. The calyx-leaflets, the dark-green flat leaflets, and the broad terminal one, may help to decide in doubtful cases ; yet some specimens I have been obliged to join to *R. Borreri* merely on account of the double serratures of the leaflets : and in the autumn of 1814 I observed a plant near Southgate, which, with all the other characters of *R. Borreri*, had nevertheless simple serratures : in 1815 the same plant had compound serratures. I have examined perhaps a hundred plants of this species, and my friends Mr. W. Borrer and Mr. E. Forster

probably as many more, without meeting with any other instance of such an anomaly; nor has a similar one been observed in any other species.

The artificial character which separates this from *R. cæsia* seems to be slight; yet it is I believe constant; and as there is no approximation in habit, there will be no difficulty in distinguishing the plants. No synonym of any foreign author can be referred with certainty to this species.

17. *ROSA CÆSIA*.

R. receptaculis ellipticis, pinnis calycinis raris, aculeis uncinatis subæqualibus; foliis hirsutis eglandulosis duplicato-serratis.

Rosa cæsia. Engl. Bot. xxxiii. t. 2367.

Frutex densus, 5-pedalis. *Rami* suberecti, fusco-purpurei, glaucitie conspicuâ induti, aculeati; aculei uncinati, subæquales, plerumque binato-stipulares. *Petoli* tomentosi, glandulosi, plerumque inermes. *Stipulæ* lineares, glanduloso-serratæ, tomentosæ; eæ floribus etiam solitariis propiores latiores, et demum foliis deficientibus in bracteas ellipticas acuminatas immutatæ. *Foliola* 5 vel 7, par superius et foliolum impar ceteris majora, elliptica, venulis subtus prominentibus hirsutis; pagina inferiore hirsuta et interdum quoque superiore, serraturis glanduloso-serratis. *Pedunculi* sub-solitarii, glabri, bracteis breviores. *Receptaculum* ellipticum, primo glaucitie indutum, dein fuscum, glabrum. *Calycis foliola* eglandulosa, lanceolata, acuminata, pinnata; pinnæ raræ, lineares, nunc glanduloso-dentatæ nunc integerrimæ. *Flores* rubescentes. *Styli* inclusi; stigmata hemisphærica. *Fructus* ellipticus: maturi faciem nescio.

At Taynuilt in Mid Lorn, Argyleshire; and in Strath Tay, between Dunkeld and Aberfeldie, Mr. Borrer. Side of Loch Tay, Mr. G. Anderson.

I have endeavoured in the description of *R. Borreri* to show the differences between that species and the present. *R. collina* is still nearer in character; and I fear that in the present state of our knowledge I can only point out the few and small pinnæ of the

the calyx-leaflets as a decided mark of separation ; for the double serratures of the leaflets are sometimes rather ambiguous, and always less strongly marked than those of *R. Borreri*; and the simple serratures of *R. collina*, though I believe never strictly compound, are yet frequently so irregular and unequal as to produce something of the same appearance. From *R. hibernica* *R. casia* is artificially distinguished by the total want of the smaller scattered aculei. I have never seen this plant in a living state ; but Mr. Borrer assures me that the dense mode of growth, glaucous shoots, and hoary blueish gray foliage, contribute to give it an appearance very different from that of any other Rose.

Rosa rubrifolia of Villars, *Dauph.* iii. 549, seems intermediate between this species and *R. nuda*. Baron Fr. X. Wulfen, in *Römer's Archiv. für die Botanik*, mentions a *Rosa glaucescens* which in some respects resembles this ; while in others it seems to unite better with *R. collina*.

The Rose with leaflets pubescent on the underside, mentioned by Afzelius in his *Tent. de Ros. Suec.* as confounded in Sweden with *R. canina*, is supposed by Sir J. E. Smith in *Engl. Bot.* to belong to this plant ; it seems to me to be decidedly my *R. collina* β .

18. ROSA SARMENTACEA.

R. stylis distinctis, receptaculis ovatis, aculeis uncinatis, foliolis duplicato-serratis glaberrimis.

R. canina. Roth *Fl. Germ.* i. 218 ; ii. 560.

Frutex 8—10-pedalis. *Rami* diffusi, olivacei, aculeati ; aculei adunci, nunc rari, sparsi, nunc solitarii vel binato-stipulares. *Petoli* absque pubescentia, hic illic glandulosi, aculeisque falcatis basi expansis muniti. *Stipulae* spatulatae, glabrae, serratae, serraturis interdum glanduliferis ; eae floribus propiores etiam solitariis multo latiores, tandem foliis deficientibus in bracteas ovatas acuminatas immutatae ; ad florum cymas bracteae illae numerosiores, sed basi angustiores. *Foliola* 5 vel 7, elliptica, par superius et foliolum impar ceteris majora, subacuminata, glabra, supra cerea, subtus interdum nervo aculeata,

aculeata, serraturis inæqualibus, plerumque divaricatis, irregulariter serrulatis. *Pedunculi* 1—8, glabri, bracteis breviores. *Receptaculum* anguste ellipticum, fuscum, glabrum. *Calycis foliola* glabra, triangulari-elliptica, acuminata, pinnis lanceolato-linearibus, inciso-serratis. *Flores* rubescentes, planiusculi. *Styli* inclusi, stigmatibus planiusculis. *Fructus* ellipticus, coccineus, nitidus.

Common in hedges and bushy places.

β. nitens. The leaves, instead of the gray waxy appearance they generally have, are of a shining green: this variety has frequently a few setæ on the fruitstalk. Mr. Borrer finds this character also in *α*. I have observed one specimen further remarkable by its straggling habit and small leaflets, with long ragged-looking serratures; perhaps it ought rather to be considered as belonging to the variety *γ*. In hedges.

γ. A dwarf variety of very lax and feeble growth, which is occasionally met with in waste ground and on way-sides: the leaflets are rarely more than five, elliptico-lanceolate, or even sometimes lanceolate; the serratures are narrower and longer. It is remarkable that in this variety, while the leaflets are always narrower than in *α*, the leaflets are generally wider.

δ. is a very large plant, which has the fruit and even the immature receptacle nearly globose; the calyx-leaflets are also frequently glandular. At Settle and other places in the mountainous district of the North of England.

ε A variety with very small flowers, and a habit not unlike that of *R. casia*. At Settle.

ζ. A large but slender plant, with flowers always solitary. Receptacle broadly-elliptical. Road-side near Furness Abbey.

I am disposed to refer to this species *R. micrantha*, *Lam. et Dec. Fl. Fr.* vi. 537. The name I have adopted is derived from the

the manuscript observations of Professor Swartz, communicated by him to Mr. Robertson of Newcastle.

The setæ which are occasionally met with on the peduncle of this tribe of Roses have a very different appearance from those of the straight-thorned Roses and of *R. Eglanteria* and *R. micrantha*; they are extremely feeble, hardly even stiff enough to support the gland by which they are terminated, and frequently passing into mere hairs without any gland: indeed in the former tribe the setæ seem to indicate an attempt to produce aculei; and it is sometimes difficult to say whether the latter name would not be more appropriate: in this they have the appearance of an endeavour to form hairs; and as they gradually diminish in strength and in the size of the terminating gland, till at last it entirely disappears, it is not always easy to decide to which sort of arms they belong. Thus, extraordinary as it may seem, we have in this genus hairs and prickles passing into one another by steps almost insensible.

The plant most nearly allied to this is undoubtedly *R. canina*, from which it is to be distinguished by its double serratures: by the smooth leaflets without either hairs or glands on the under surface, it may be easily known from *R. micrantha*; and the want of hairs will readily distinguish it from *R. Borreri* and *R. cæsia*; but as I am always unwilling to rest upon this character alone, when the difference of habit is supported by any other, I will observe that the shape of the leaflet, and its being always more or less carinate in this species, will be a decided mark of separation from the former of these plants; and the same character, though the difference is less distinctly marked, and the pinnae of the calyx leaflets, will make it known from the latter.

19. *ROSA BRACDESCENS*.

R. receptaculis globosis, aculeis uncinatis, foliolis simpliciter serratis subtus tomentosis, bracteis fructus superantibus.

Frutex 6—7-pedalis. *Rami* diffusi, nunc fusci, nunc olivacei, aculeati; aculei falcato-uncinati, binato-stipulares. *Petioles* tomentosi, nec glandulosi, aculeisque falcatis muniti. *Stipulae* lineares, subintegerrimae, vel apicem versus serrulatae, subtus tomentosae; eae floribus propiores multo majores, demum foliis deficientibus in bracteas magnas ovatas, acuminatas, fructus superantes immutatae. *Foliola* 5 vel 7, par superius et foliolium impar ceteris majora, elliptica, supra hirta, subtus tomentosa, interdum nervo aculeata, simpliciter serrata. *Pedunculi* 1—4, plerumque glabri, rarius setis sparsis debilibus armati. *Receptaculum* globosum, olivaceo-fuscum, glabrum. *Calycis foliola* triangulari-elliptica, pinnata, pinnis integerrimis. *Flores* incarnati, concaviusculi. *Styli* subinclusi; stigmata in conum porrecta, villosissima. *Fructus* globosus: maturi colorem nescio.

Hedges about Ulverston, Lancashire.

β. *Stipulae* nearly smooth; calyx-leaflets glandular. At Ambleside in Westmoreland.

I am not aware that this Rose, though presenting a very striking character, has been noticed by any preceding botanist: from that character the present name is adopted; but my choice was confined by the use of names previously introduced from characters somewhat similar. *R. bracteata* is the well-known name of a very different species; and Thuilliers has given the name of *stipularis*, which would have been the most appropriate, to a Rose with which I am unacquainted, but which cannot be confounded with the present.

From *R. dumetorum*, independently of certain marks which will be pointed out in the description of that species, *R. bractescens* may be known by the rounder receptacle, the mass of woolly styles, and the immense bractæ. This latter is an important character by which it may be distinguished from the other Roses with hooked prickles and simple serratures; from most of which it also

also differs in having the leaves pubescent on both surfaces: to this may be added, that the aculei are more slender and less curved than is usual in this tribe, though quite enough so to show that they belong to it; and they are also more numerous, and the petioles are very rarely unarmed. The entire pinnæ of the calyx seem to be constant in this Rose, a circumstance seldom to be met with in those which resemble it most nearly. Its closest affinity is certainly with *R. collina*; but a careful attention to the above marks will be sufficient to distinguish it.

20. ROSA DUMETORUM.

R. stylis distinctis, receptaculis ellipticis bracteis superantibus, aculeis uncinatis, foliolis simpliciter serratis utrinque hirsutis.

R. dumetorum. *Thuilliers Fl. des Env. de Paris*, 250.

R. canina §. *Desvauz J. de Bot.* ii. 115.

Frutex 4—6-pedalis. *Rami* debiles, diffusi, olivacei, aculeati; aculei parviusculi, uncinati, subbinato-stipulares sparsique. *Petioles* pilis aculeisque uncinatis, interdum etiam glandulis instructi. *Stipulæ* lineares, apicem versus glanduloso-serratæ, margine pilosæ, eæ floribus propiores ceteris paullum latiores, denique foliis deficientibus in bracteis lanceolatas parvas, latitudine parum, longitudine nequaquam, stipulas superantes, immutatæ. *Foliola* 5 vel 7, sublucentia, par superius et foliolum impar ceteris majora, impar quoque etiam foliolis paris superioris semper latius, nunc elliptica acuta, nunc subrotunda acuminata, simpliciter serrata, subtus nervo-pilosa vel juniora sericeo-pilosa, paginâ utrâque hirta. *Pedunculi* 1—3, glabri, pilisve sparsis tantum instructi, bracteis plerumque subæquantibus, interdum superantes. *Receptaculum* ellipticum vel ovatum, nunc fuscum, nunc floribus decidentibus olivaceum, glabrum. *Calycis foliola* triangulari-elliptica, acuminata, plerumque glabra, rarius pilosa, composita; pinnis confertis lanceolatis hic illic incisis, margine sæpius integerrimis. *Flores* planiusculi, petalis rubescentibus. *Styli* subinclusi, stigmatibus in globulum villosum congestis. *Fructus* late ovatus vel subglobosus, glaber, ruber.

Hedges in the southern counties occasionally; seldom in any abundance.

This is generally a weak straggling Rose, which, in the instances which have fallen under my notice, does not flower very freely. Mr. Borrer, however,—to whose accurate observations this essay is in many instances deeply indebted,—finds a plant in the neighbourhood of Henfield in Sussex, which, agreeing in other respects with this, is yet neither of feeble growth nor unwilling to flower. Even under this appearance the aculei are usually smaller and weaker than in the neighbouring species.

β . has a stronger growth and larger aculei than are usual in α ; the pinnæ of the calyx are also narrower, the flowers in a cyme, much more numerous; and both in appearance and character it approaches very near to *R. surculosa*.

γ . has a leaflet of a very dark shining green, much longer than usual in *R. dumetorum*. I have seen very little of it, and have therefore for the present joined it to this plant on account of the small bractæ, small aculei, weak growth, and the pubescence of the leaves, which are decidedly hairy on the veins and on the surface beneath, and exhibit some scattered hairs on the upper surface: but it must be confessed, that in the shape of the leaflet and the general appearance of the plant it has little affinity with this species.

If we except the doubtful variety γ , the flat leaves of this Rose (a considerable portion of which in every plant is either subrotund and acuminate, or at least very much rounded at the base) will distinguish it, without reference to the pubescence, from *R. sarmentacea*, *R. collina*, and *R. canina*. This form and expansion of the leaf it has in common with *R. Borreri* and *R. surculosa*; but the first has its leaves doubly serrated, in the latter they are always entirely smooth on both sides. I have already recorded an observation which throws some doubt on the former character; and

and the latter is in so many instances in other families known to be variable, that I am unwilling to depend upon it entirely in this. Yet the three *Roses* are different in habit, and I have not been able to fix on any more permanent distinction.

21. *ROSA COLLINA*.

R. stylis distinctis, aculeis uncinatis subæqualibus, foliolis simpliciter serratis subtus tantum hirsutis.

α. *R. collina*. *Jacq. Fl. Austr.* ii. 58. t. 197. *Willd.* ii. 1078.

Lam. et Dec. Fl. Fr. iv. 441. Pedunculis setosis.

β. *pallescentis*.

Frutex 6—8-pedalis. *Rami* subdiffusi, olivacei, aculeati; aculei uncinati, pallidi, sæpius debiles, subæquales, solitario- vel binato-stipulares. *Petioli* tomentosi, incani, aculeisque falcatis muniti. *Stipulæ* lineares, apicem versus serratæ vel glandulosæ serratæ, supra glabræ, eæ floribus propiores majores, et tandem foliis deficientibus in bracteas ovato-lanceolatas immutatæ. *Foliola* 5 vel 7, par superius et foliolum impar ceteris majora, elliptica, enormiter (sed nunquam duplicato) serrata; serraturis apice pallide cartilagineis, subtus hirsuta, supra glabra, glauca, et nitoris expertia. *Pedunculi* 1—5, glabri, bracteis breviores. *Receptaculum* ellipticum, glabrum, olivaceum. *Calycis foliola* ovato-lanceolata, apicem versus pilosa, pinnata; pinnis lineari-lanceolatis incis, plerumque margine integerrimis. *Flores* planiusculi, pallide rubescentes. *Styli* inclusi, stigmatibus convexis. *Fructus* ellipticus: maturi colorem non observavi.

Hedges in the southern counties occasionally.

γ. *R. canina* γ. *Lam. et Dec. Fl. Fr.* iv. 447.

R. dumetorum. *Lam. et Dec. Fl. Fr.* vi. 534.

Stems stronger but more diffuse, brown; aculei strong, brownish, and much more hooked than in *R. collina* β; leaflets of a bright shining green on the upper surface, generally somewhat carinate, while in β they are rather slightly concave; tips of the serratures fusco-cartilagineous. Flower-stalks one to nine. Receptacle broader than that of β.

Flowers sometimes white, sometimes of a full blush-colour. Fruit often subglobose. Hedges throughout England very common.

- δ. A compact bush three or four feet high, thick with leaves, the leaflets small, very acute, silky underneath. Near Dovedale, Derbyshire.

There is no species of *Rosa* in which my endeavours have been more unsuccessful than in this. I am neither satisfied in what I have joined together, nor in the marks by which I have attempted to discriminate it from other species. The variety α is adopted merely from Jacquin; and, as far as is at present known, is not a British plant. I have therefore drawn up my description from the variety β : an examination of the specimens of *R. collina* possessed by Sir J. E. Smith, and of those in the Herbarium of Sir Joseph Banks, and a comparison of these with the figure in the *Flora Austriaca*, enable me to state that this variety differs only from α in the want of hairs or glands on the peduncle. In this state it approaches very nearly to *R. bractescens*, being scarcely distinguishable, except by the somewhat smaller bracteæ and the entire nakedness of the upper surface of the leaf; and as that species has frequently a glandular, or rather a weakly setose peduncle, exactly like that of Jacquin's figure, I have doubted whether I ought not rather to have attributed the name and synonym to that plant. Jacquin, however, could hardly have passed unnoticed the remarkably enlarged bractescent stipulæ accompanying the inflorescence of *R. bractescens*; he describes the prickles as "validi," although in the figure they are represented as much weaker than is the case with most Roses of this subdivision of the genus, and the folioles as "atro-virentia," whereas they are figured pale and glaucous; both figure and description attribute a dark cartilagineous summit to the serratures. These circumstances

umstances induce me to believe that Jacquin would have included in his species most, if not all, of those different appearances which I have united into mine. The glandular footstalk varies in *R. bractescens*, *R. canina*, and other neighbouring species; which will justify us in rejecting it from the essential character in this instance, though a most diligent search has not succeeded in bringing to light a single instance of glands or setæ on the peduncle of any variety a native of this country:—once, indeed, on one plant I found a few hairs on that of the variety γ .

This last-mentioned variety is certainly a very different plant in appearance from either α or β , and may perhaps be a distinct species; but I have found myself unable to find any character by which it might be separated; and it besides varies greatly in itself both in habit and in character. The leaflets are sometimes almost as broad, but I believe never as flat, as those of *R. Borreri* and *R. dumetorum*; and the calyx-segments sometimes approach in shape and number to those of these plants; the serratures too, though never double, become sometimes exceedingly unequal. At other times the long leaflets and equal serratures might lead one, without the inflorescence, to refer it to *R. systyla*. To this variety I should refer the Rose which is mentioned by Afzelius as a hairy variety of *R. canina*, and quoted by Sir J. E. Smith under *R. cæsia*: some further observations on Afzelius's varieties of *R. canina* will be found in the account of that species. The glandular fringe of the serratures sometimes passes into hairs.

Of the variety δ I have only seen one plant, and that before its flowers were open: it was a compact bush, between three and four feet high, abounding in flower-buds; and the numerous small and very acute leaflets gave it a peculiar appearance.

In Römer's *Archiv. für die Botanik*, Band i. p. 6. *Auc. A. ab Haller*, *R. collina* is described as having the upper surface of the

the leaves shining, with a silky pubescence. The author refers to Jacquin; but he must I think totally have mistaken the plant.

Rosa arvensis, Roth *Fl. Germ.* i. 217, & ii. 554; *R. corymbifera*, Gmel. *Fl. Bad. Als.* ii. 424, resembles in some respects the variety γ ; but the leaves are said by the latter writer to be hairy on both sides. It is not explained whether the serratures of the leaves are double or single; Roth describes his plant as a robust shrub ten feet high, with leaves attenuated at both ends; a character which rather belongs to this than to any other of the pubescent-leaved Roses of the *canina* tribe.

Perhaps to this species we must refer *R. leucantha*, Lam. et Dec. *Fl. Fr.* vi. 535, which has white flowers, and occasionally a few hairs on the upper surface of the leaves. *R. fastigiata* (of the same work and page) may likewise be a sub-variety of *R. collina* γ , with flowers more numerous than common: the shape of the leaves will not permit me to join this latter to *R. surculosa*, with which otherwise the flowers "disposés en corymbe assez large" might indicate an affinity. All Roses with hooked thorns of nearly equal size, having the leaflets smooth above, and the petiole and midrib on the under surface hairy; the styles distinct and included, or nearly included, in the germen,—must be considered as belonging to this species. I must leave it to future investigators to decide on the one hand, whether these characters are sufficient to distinguish it as a species from *R. canina*; and on the other, whether with so much difference of habit it ought not itself to be further divided.

22. ROSA HIBERNICA.

R. receptaculis globosis, aculeis uncinatis inæqualibus, foliolis simpliciter serratis.

R. hibernica. Engl. Bot. xxxi. t. 2196.

Frutex

Frutex tripedalis. Rami stricti, fusci, aculeati; aculei uncinati vel falcati, subbinato-stipulares, hic illic minoribus rectoribus sparsim intermixtis. Petioli pilosi, aculeis glandulisve plerumque expertes. Stipulæ lineares, subglanduloso-serratæ, eæ floribus propiores etiam solitariæ, ceteris multo latiores; cymarum tandem, foliis deficientibus, in bracteas ovatas acuminatas immutatae. Foliola 5 vel 7, par superius et foliolum impar ceteris majora, elliptica, simpliciter serrata, supra glabra glaucescentia, subtus præcipue nervo pilosa. Pedunculi 1—5, glabri, bracteis plerumque breviores. Receptaculum subglobosum, fuscum. Calycis foliola triangulari-elliptica, acuta, petalis breviora, pinnata, pinnis lanceolatis integerrimis. Styli subinclusi; stigmata villosa, conica. Fructus nunc globosus, nunc fauce parum elongatâ: maturum non vidi.

In Ireland, Mr. Templeton. *Engl. Bot.*

I have never seen this plant in a wild state. The curvature of the aculei is generally less than in other Roses of this tribe,—a character in which it agrees with *R. bractescens*; but the simple serratures will readily distinguish them both from all the varieties of *R. tomentosa*; and the aculei rest on a longer base than is found on that plant. From *R. bractescens* and *R. collina* this species may be known by its dwarf rigid habit; but the most important character is derived from the mixture of small straight prickles on the branches. It is true that *R. hibernica* has this character in common with *R. Eglanteria*; but the entire want of glands, the simple serratures, and the shape of the fruit, render it impossible that any mistake should arise between them.

23. ROSA CANINA.

R. stylis distinctis, aculeis caulinis uncinatis petiolinis falcatis, foliolis carinatis simpliciter serratis glabris.

R. canina. Linn. *Sp. Pl.* i. 704. Willd. ii. 1077. *Fl. Brit.* ii. 540. *Engl. Bot.* xiv. t. 992. Lam. et Dec. *Fl. Fr.* iv. 447. *Fl. Dan.* t. 555.

Rosa sylvestris inodora seu canina. Raii *Syn.* 454.

Frutex laxus, 6—8-pedalis. Rami diffusi, olivacei, aculeati; aculei uncinati, subbinato-stipulares. Petioli pubescentes; aculeis falcatis, atque hic illic glandulis sparsis muniti.

niti. *Stipulæ* lineares, serratæ, glabræ, eæ floribus propiores latiores, et demum foliis deficientibus in bracteas ellipticas acuminatas immutatæ. *Foliola* 7, par superius et foliolum impar ceteris majora, anguste elliptica, carinata, acumine parvo torto, juniora lucescentia quasi fucata, glaberrima; serraturæ acuminatæ, inæquales, sed nunquam serie duplice. *Pedunculi* glaberrimi, in ramulis solitarii vel binati rarius ternati, in surculis plerumque quaterni. *Receptaculum* ellipticum, fuscum, glabrum. *Calycis foliola* triangulari-ovata, glabra; pinnae lineari-lanceolatæ, hic illic glanduloso-incisæ. *Flores* plerumque rubescentes, rarius albi, gemma flore expanso aliquantulum rubrior. *Styli* inclusi, stigmatibus planiusculis. *Fructus* ellipticus, glaberrimus, nitidus, coccineus.

Common in hedges and bushy places.

Under this name our early botanists seem to have included (besides the present species) *R. sarmentacea*, *R. Borreri*, *R. dumetorum*, *R. collina*, *R. surculosa*, and *R. systyla* of this essay. After all these reductions it must still be considered as a very variable Rose. I will attempt to enumerate the principal differences of appearance to which it is subject.

β. cerea. The young leaves are covered with a waxy substance, and till rubbed are of a glaucous green entirely without gloss. Root-shoots are more freely produced in this variety than in *α*, and I have sometimes met with as many as eight flowers in a cyme. The plant is eight or ten, and sometimes even fifteen, feet high; the leaflets are broader, and the little point at the end is always a little twisted; a character which may be observed in a slight degree in *α*, but is more conspicuous here. This is a very beautiful Rose, and more common than the preceding variety, from which I have drawn my description, because *R. canina* has been almost always described with shining leaves.

These two varieties form the chief subdivisions of the species, and are marked by a difference of habit as well as colour;

lour; and it is remarkable that *R. collina* and *R. sarmentacea* are not unfrequently to be observed of a habit somewhat intermediate between these varieties; so that if at first sight the young botanist should doubt whether he has the waxy or shining-leaved variety of *R. canina*, it is highly probable that a closer investigation will prove it to be one or the other of those species.

γ. *glandulifera*. Peduncle, receptacle, and calyx furnished with glands, or rather with weak setæ, which are most abundant on the latter.—Near Potter's Bar, Hertfordshire; at Pound's-Bridge, near Penshurst in Kent; near Ambleside in Westmoreland. Mr. Borrer gathered a Rose nearly resembling these specimens, and which must be referred to this variety, but with the calyx-leaflets narrower and less divided, at the Pass of Lanrick.

δ. Branches, stipulæ, and petioles of a vinous red. Not rare in hedges and bushy places, generally in a barren soil.

ε. Receptacle subglobose; leaflets ovate, or lanceolato-ovate, acute, with very little appearance of the small twisted acumen. This Rose certainly does not accord well with the other varieties of *R. canina*: the shape of the leaflets, and their very irregular glandular serratures, united with the general habit, would almost justify an observer in attributing it to *R. collina*; and with this notion the subglobose fruit is not inconsistent; but the petiole veins and inferior surface of the leaflets are entirely without hairs. In some respects it resembles *R. surculosa*; but the leaflets are not flat, and the aculei of the petioles are rarely more than falcate. Near Tunbridge-Wells.

R. simpliciuscula. Calyx-leaflets nearly simple. A slight difference in the general habit induced me to gather this plant when I observed it near Betchworth in Surrey; but I did not then notice the character by which I now distinguish it.

Among the British Roses with uncinatè prickles and leaves entirely without pubescence, *R. canina* may be distinguished from *R. sarmentacea* by the simple serratures; from *R. surculosa* by its carinate leaves, and by the weak and slightly-hooked prickles of the petioles; from *R. arvensis* by its distinct and woolly styles. *R. sempervirens* is in habit and even in family quite a distinct plant; yet it is difficult to express any decided marks of difference, except in the styles, which, though sometimes slightly porrect in *R. canina*, are never lengthened out as in that species.

Afzelius, *De Rosis Suecanis Tent.* viii. 46, describes seven varieties of *Rosa canina*, which he considers only a portion of the number of species into which this plant must be divided. The first seems clearly to be the *R. collina* γ of this essay. The second also I should probably have enumerated among the varieties of that species, but it is remarkable for a large globular hip as large as a plum—a very uncertain mark of comparison. The third plant is *R. canina* β ; the fourth, *R. canina* γ ; the fifth, *R. canina* α ; the sixth appears to belong to my *R. surculosa*. *R. rubifolia* of Villars is quoted under the seventh of this list of Roses; but Dr. Afzelius does not seem to be of opinion that the Swedish Rose is of the same species as that of Dauphiné; the former is perhaps rather the *R. canina* δ of this essay. Besides these, he mentions many other Roses of this tribe as existing in his collection, which not having seen alive he does not venture to describe. The various appearances of this Rose are therefore probably as numerous in Sweden as in this country.

Desvaux,

Desvaux, *Journal de Botanique*, ii. 114, has no less than twenty-one varieties which he attributes to this species; but in respect to some of them he is certainly mistaken: his β is the α of this essay, and γ is the β ; while his α seems to be intermediate, or rather to apply equally to either when the first appearance of the young leaves is passed off; δ seems to be my *R. collina* γ , and ϵ *R. collina* α ; ϑ perhaps is to be referred to *R. canina* ϵ ; η must be placed with my *R. canina* γ ; ϑ the author has borrowed from Lejeune, and, as he says himself, without understanding it: ι , κ , λ , I suppose all to belong to *R. canina* γ of this paper; μ is *R. tomentosa*, adopted from the botanists of this country. The description of the aculei might indeed mislead Desvaux; but he must be totally ignorant of our plant, as in the essential character of the species he describes the serratures simple: ν , ξ , are to be attributed to *R. dumetorum*; \omicron probably to *R. collina*: and here also I should put π , ρ , σ , τ : υ is *R. canina* β ; ϕ may be *R. canina* γ : but all these references must be considerably uncertain, as the descriptions are very short; and it is not at all improbable that one or two of them ought to be quoted as *R. surculosa*. I have detailed them chiefly to show the extreme uncertainty which exists as to this species. Of the twenty-one varieties, there are at the most only ten which appear to me to belong to *R. canina*, and some even of these are very doubtful.

A conserve is made from the hips of this Rose, and probably of all those which have been hitherto confounded with it, which, as Sir J. E. Smith justly observes, would be brought to table as a sweetmeat if it were not in such frequent use as a vehicle for medicines. It is sometimes met with on the tables of the Continent. The Tartars, according to Pallas in the *Flora Rossica*, drink instead of tea a decoction of the shoots and especially of the roots of this plant: this beverage has been adopted by some of the Russians, particularly in Siberia, who highly praise the agreeable and exhi-

larating effects of it. The Russians of the Volga prepare a spirit from the flowers; they likewise preserve them with sugar and honey. The leaves dried and infused in boiling water have been recommended as a substitute for tea.

24. *ROSA SURCULOSA*.

R. stylis distinctis, aculeis caulinis petiolinisque uncinatis, foliis planis simpliciter serratis glabris.

Frutex octo-pedalis, laxis, habitu *Rosam caninam* vel potius *R. Borreri* inter et *R. arvensen* referens. *Rami* diffusi, atro-purpurei vel intense fusi, juniores glaucescentes, nunc copiose aculeati nunc fere inermes; aculei fortissimi, uncinati, nunc binato-stipulares, nunc solitarii, sparsi. *Petioles* supra tantum sparse pilosi, alioquin glabri, aculeis fortibus uncinatis muniti. *Stipulae* spatulatae vel lineares, nunc serratae, nunc basi glanduloso-ciliatae, nunc nisi apicem versus integerrimae, glabrae, interdum margine pilosae, eae floribus propiores latiores et demum foliis deficientibus in bracteas ellipticas, acuminatas, immutatae. *Foliola* 7, par superius et foliolum impar ceteris majora, acie supraque nervo tantum pilis raris instructa, elliptica, vel subrotunda, acuminata, impar basi cordatum vel ovatum, serrata, subtus glabra, obscura, juniora purpurascens. *Pedunculi* 1—24, hic illic setis sparsis, tenerrimis, pilisve muniti. *Receptaculum* ovatum, fuscum, glabrum, disco convexo. *Calycis foliola* triangulari-elliptica, acuta fere usque ad basin divisa, pinnis lanceolatis vel lineari-lanceolatis, nervosis, integerrimis. *Flores* rubescentes. *Styli* subporrecti, villosi; stigmata in globulum congesta. *Fructus* late ellipticus, ruber.

About Albourne, Henfield, West Grinstead, and elsewhere in Sussex. Mr. Borrer. Road-side between Hayes and Bromley in Kent.

β. Surculi not so strong, redder; bush more compact; disk of the receptacle flat. Near Stoke Newington. Only one bush of this Rose has ever been observed; but the habit of the plant is very remarkable, and I had noticed it several years before I began to pay any particular attention to this genus.

The only British species which can be mistaken for *R. surculosa* are

are *R. canina*, *R. systyla*, and *R. arvensis*; and from each of these it may perhaps be difficult to give a description which shall accurately distinguish it, while in habit it is considerably different from either. From the first it may however, I think, always be known by the porrect styles, the entire pinnæ of the calyx-leaflets, the peduncle almost always furnished with hairs or setæ, the shape and flatness of the leaflets, and the strong and hooked aculei of the footstalk. These marks seem indeed amply sufficient, but I am afraid they are all more or less uncertain. I have never seen the glands of the peduncle extending themselves on the receptacle or calyx; in *R. canina*, when glands are found on the peduncle, they are also generally to be observed on the fruit, and still more on the calyx; but this character likewise sometimes fails. A better distinction in the living plant is found in the enormous surculi covered with beautiful blue wax, and bearing great cymes of flowers. In the most favourable circumstances it is only by accident that *R. canina* has more than four flowers. In this plant if any surculi are produced, and it is rarely without them, the observer will not often be disappointed in searching for eight or ten, and he will sometimes find double that number; but even this mark is not very decidedly exhibited in the variety β , which seems however to unite better with this species than with any other. From *R. arvensis* it may be known by the styles, which are here hairy and but just protruded, not smooth and collected into a long cylinder, as in that plant. It is also a much more upright plant, the surculi being rather erect than decumbent. From *R. systyla* also a due attention to the styles will distinguish it; and the shape and flatness of the leaf give a decidedly different appearance to the present plant.

25. *ROSA SYSTYLA*.

R. stylis unitis, receptaculis oblongis, aculeis uncinatis subæqualibus surculorum confertis, foliolis simpliciter serratis.

R. systyla. *Bastard Flore d'Anjou*, as quoted by *Desvaux, Journ. de Bot.* ii. 113.

R. stylosa. *Lam. et Dec. Fl. Fr.* vi. 586. *Desv. Journ. de Bot.* ii. 113. *pl.* 14.

R. brevistyla. *Lam. et Dec. Fl. Fr.* vi. 537.

R. leucochroa. *Desv. Journ. de Bot.* ii. 113. *pl.* 15.

R. collina. *Engl. Bot.* xxvii. t. 1895.

Frutex gracilis, 8—12-pedalis. *Rami* vagi, olivacei, aculeati; aculei uncinati, subæquales, ramulorum minores plerumque binato-stipulares, surculorum maximi instar *Psittacorum* rostri. *Petiolii* tomentosi, sæpe glandulosi, aculeisque parvis falcatis muniti. *Stipulae* lineares, serrulatae, glabriusculæ, eæ floribus solitariis propiores vix ceteris latiores, ad cymas, foliis deficientibus, tandem in bracteas lanceolatas acuminatas immutatae. *Foliola* 5 rarius 7, par superius et foliolum impar ceteris majora, elliptica, vel lanceolato-elliptica, carinata, acuminata, simpliciter serrata, supra glabra, subtus venulis hirsuta. *Pedunculi* 1—8, glandulosi, elongati. *Receptaculum* oblongum vel elliptico-oblongum, fusco-olivaceum, glabrum. *Calycis foliola* ovato-triangularia, pinnata; pinnæ inciso-glandulosæ. *Flores* cyathiformes, petala pulcherrime rubescentia, basi parum in aurantiacum vergentia, sed interdum flores pallidiores et etiam albi inveniuntur. *Styli* in columellam porrecti; stigmata in conum congesta. *Fructus* elliptico-oblongus, glaber, coccineus.

At New-Timber, Henfield, and many other places in Sussex abundantly. Mr. Borrer. At Walthamstow and Quendon in Essex, and at Clapton in Middlesex. Mr. E. Forster. At Donnington-Castle in Berkshire. Mr. Bicheno. Near Penshurst in Kent, and near Hornsey in Middlesex.

β. Leaves entirely smooth on both sides.

I cannot hesitate in referring to one species the synonyms above quoted. *R. brevistyla* and *R. leucochroa* are said to differ in having a shorter column of styles than *R. stylosa*; but this circumstance

I have

I have observed to vary considerably. *R. debracteata*, Lam. et Dec. Fl. Fr. vi. 537, ought also probably to be referred to this species: it has the styles connected, and differs from *R. arvensis* in its greater size and upright stem. The "*flore d'Anjou*" of Bastard I have not been able to meet with, I therefore trust to Desvaux: but the character of the plant is so distinct, as applied to a Rose having nearly the habit of *R. canina*, that there can be no doubt of the accuracy of the reference. Desvaux has thought proper to alter the name; but I have preferred retaining that originally proposed by Bastard, not only as being prior to the other, but also very decidedly better. The name in *English Botany* was given with the idea that this species coincided with the *R. collina* of Jacquin; from which, however, it may readily be distinguished by its elegant habit, cup-shaped flowers of a much more glowing hue, long fruit and peduncle, narrow bractæ, and above all by its connected styles, which separate it from all Roses of the *canina* family. The difference in the size and strength of the aculei of the branches compared with those of the surculi may sometimes also be a useful character. The habit of *R. systyla* will to the practised eye keep it abundantly separate from *R. arvensis*. In artificial character they are more nearly allied; but in *R. systyla* the surculi, though weak and gracefully bending, rise upwards, unlike the long, rambling, decumbent shoots of *R. arvensis*: they are also thickly covered with large prickles; whereas those of the latter Rose have the aculei neither very large nor very numerous, but rather the contrary.

In some states this is a Rose of no very conspicuous appearance; but when it produces its root-shoots long and gently curved downwards by the weight of the numerous clustered flowers, it is hardly possible to conceive any thing more beautiful.

26. *ROSA ARVENSIS*.

R. stylis unitis, aculeis uncinatis surculorum sparsis, foliolis ellipticis inæqualiter serratis.

R. arvensis. Willd. ii. 1066. *Fl. Brit.* ii. 538. *Engl. Bot.* iii. t. 188. *Lam. et Dec. Fl. Fr.* iv. 438.

R. canina β . *Fl. Germ.* i. 218. & ii. 560.

R. repens. *Gmel. Fl. Bad. Als.* ii. 418.

R. sylvestris. *Römer's Archiv. B. i. st. ii. p. 33.*

R. sylvestris minor flore albo. *Raii Syn.* 455.

Frutex altitudine 2—4-pedalis; surculis longissimis, decumbentibus, flagelliformibus, junioribus glaucescentibus, senioribus viridibus. *Rami* vagi, debiles, glauco-virides e luce purpureo-fusci, aculeati; aculei surculorum sparsi, basi latissimi, mucrone plerumque adunco instructi, ramorum graciliores. *Petioles* nunc hirti nunc glandulosi, rarius utrumque aculeati. *Stipulae* lineares, apicem versus nunc serratae nunc glanduloso-nunc piloso-ciliatae, glabrae, ex floribus cymosis propiores foliis gradatim deficientibus, demum in bracteas lanceolatas, vix stipulis latiores, immutatae. *Foliola* 5, par inferius ceteris minus, elliptica vel subrotundo-elliptica, plana, crenato-serrata, interdum apicem versus inciso-serrata, nervo interdum subtus pilosa, sæpius utrinque glaberrima. *Pedunculi* 1—8, interdum etiam usque ad 15, elongati, glandulis subsessilibus induti. *Receptaculum* plerumque ovatum, rarius in locis sterilibus subglobosum, fuscum, glabrum. *Calycis foliola* ovata vel subrotundo-ovata, nunc hirta nunc glandulosa, pinnulis parvis lanceolatis integerrimis hic illic instructa. *Flores* albi, expansi. *Styli* in columellam glabram persistentem porrecti; stigmata in globulum congesta. *Fructus* formâ multum variat, ab elliptico-oblongo etiam ad accurate globosum, posterior tamen vix nisi in pedunculis solitariis invenitur: maturi color sanguineus.

Hedges and bushy places in the southern and midland counties; rare in the mountainous districts.

β . Fruit glandular as well as the peduncle. At Shermanbury in Sussex. Mr. Borrer. By the high rocks at Tunbridge-Wells.

Mr. Borrer has communicated to me specimens remarkably long in the leaves and fruit. This approaches in some degree to the

the *R. prostrata*, Lam. et Dec. Fl. Fr. vi. 536, which seems to be a variety of this species with shining persistent leaves; but the latter circumstance has not occurred to me in any English specimen.

This Rose has hitherto been separated from its nearest affinities on account of the shape of the fruit: but this has been done erroneously; for though the full-grown fruit is sometimes nearly globular, the receptacle, while the plant is in flower, is decidedly ovate, except occasionally in starved specimens: it is generally longer in the cymes of flowers than when solitary, differing in this respect from *R. canina* and its allies, which have usually among the cymes rounder receptacles than those of the solitary flowers.

The midrib of the leaflet is sometimes furnished with hairs: this peculiarity will occasionally occur on some branches and not on others of the same plant.

The habit of this Rose is a low bush with long trailing shoots frequently covered with a profusion of flowers opening quite flat. The buds are faintly tinged with red, but the expanded petals are I believe always white. Mr. Sabine has what he considers as a double variety of *R. arvensis*, which retains the blush colour in the flowers, and is extremely beautiful. In this the serratures of the leaves are furnished with glands which have the appearance of double serratures, as in *R. provincialis*, *R. gallica*, *R. damascena*, and *R. alba*.

In the long shoots of this plant the aculei frequently appear to consist of a short mucro on an expanded base. As the ramifications are repeated, it often happens that the expanded base diminishes in proportionate size, and the mucro becomes a hooked prickle more round and slender than in the family of *R. canina*; the smallest prickles are even sometimes quite straight.

The distinct, smooth, lengthened column of styles is alone sufficient to distinguish it from every British Rose except *R. systyla*, from which it may be known by its decumbent shoots and expanded flowers; the leaflets also are flatter, the serratures wider apart, and the whole plant of a grayer colour. When once known, their general appearance is so different that it is impossible to confound them. Among the exotics, *R. sempervirens* comes near to it in habit, while in essential character it is easily separated by its shining leaves and villous styles. *R. sempervirens* of Roth, *Fl. Germ.* i. 218. ii. 556; *R. umbellata* of Gmelin, *Fl. Bad. Als.* ii. 425; *Lam. et Dec. Fl. Fr.* vi. 532, appears to me a very different species: it is not an evergreen; the fruit is globose or nearly so, and the leaves are doubly serrated and glandular beneath. Gmelin *l.c.* remarks that it is allied to *R. Eglanteria*. It is perhaps as near to *R. Borreri* as to any British Rose; but it is scarcely possible to conceive how this could have been mistaken for *t.* 246 of the *Hortus Elthamensis*, the only plate referred to by Linnæus, and clearly pointing out his plant.

R. semperflorens is another plant of this family, and, unless the distinct styles of these Roses should make it necessary to separate them, *R. indica*. It will also contain *R. moschata*, *R. multiflora*, and *R. sinica*. Some Roses from China, of which specimens exist in the Banksian Herbarium, will probably form another family allied to this.

The hip of this species has a finer flavour than that of any other British Rose; that of *R. systyla* does not much differ in this respect.



Woods, Joseph. 1818. "XIV. A Synopsis of the British Species of Rosa."
Transactions of the Linnean Society of London 12, 159–234.
<https://doi.org/10.1111/j.1095-8339.1817.tb00226.x>.

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