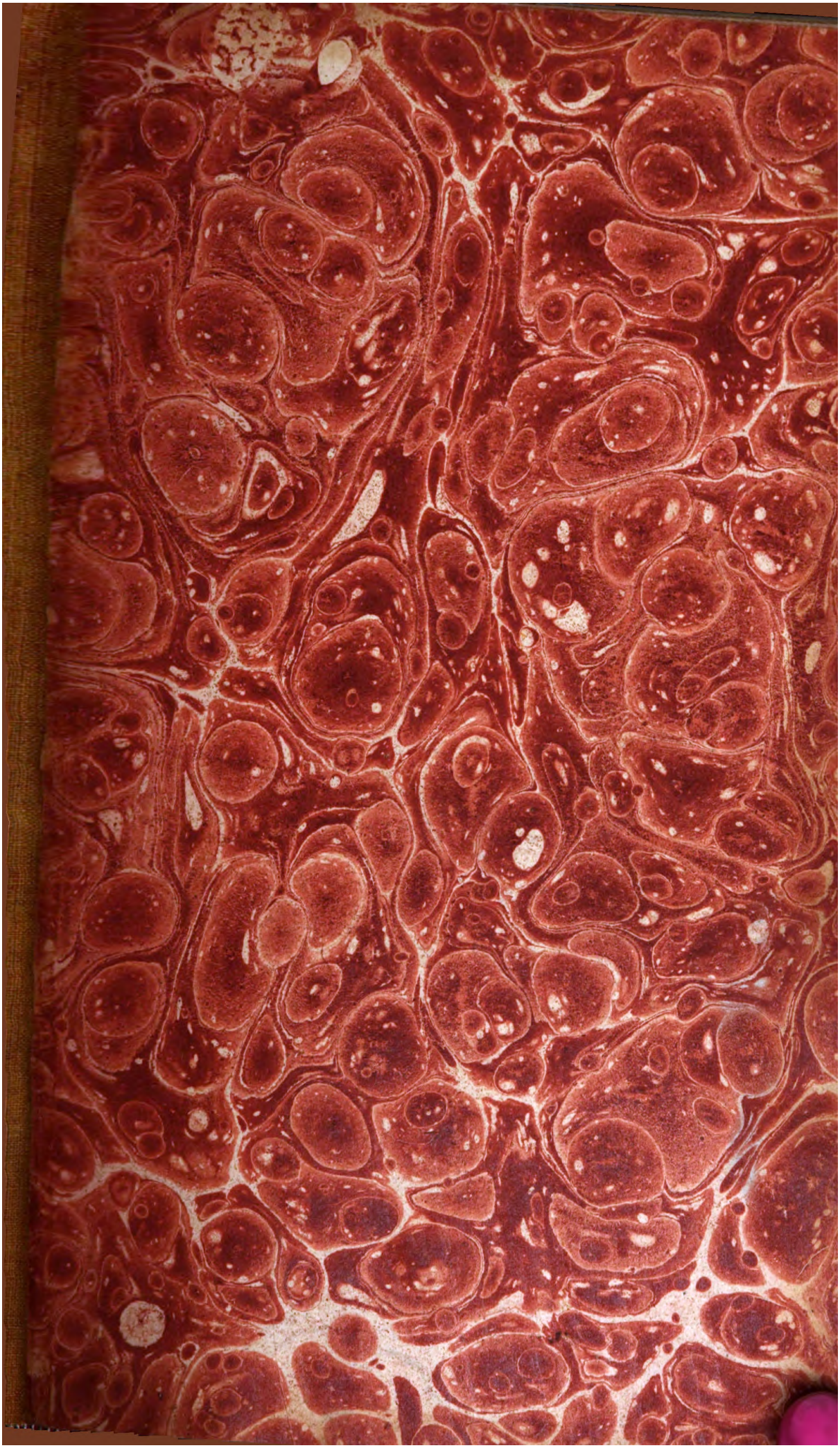

ENGLISH BOTANY;

OR,

COLOURED FIGURES

OF

BRITISH PLANTS,

WITH THEIR

ESSENTIAL CHARACTERS, SYNONYMS, AND PLACES OF GROWTH.

TO WHICH WILL BE ADDED,

OCCASIONAL REMARKS.

BY

JAMES EDWARD SMITH, M.D. F.R.S.

MEMBER OF THE IMP. ACAD. NATURÆ CURIOSORUM, THE ACADEMIES OF STOCKHOLM, UPSAL, TURIN, LISBON, LUND, BERLIN, PHILADELPHIA, AND THE NAT. HIST. SOCIETY OF PARIS;

PRESIDENT OF THE LINNÆAN SOCIETY.

THE FIGURES BY

JAMES SOWERBY, F.L.S.

——"VIRESQUE ACQUIRIT EUNDO."——*Virg.*

VOL. XIII.

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MDCCCI.

SALIX purpurea.

Bitter Purple Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Decumbent. Stamen one. Leaves obovato-lanceolate, serrated, smooth. *Stigmas* very short, ovate, nearly sessile.

SYN. Salix purpurea. *Linn. Sp. Pl.* 1444. *Sm. Fl. Brit.* 1039. *Tr. of Linn. Soc. v.* 6. 113. *Huds.* 427.
S. monandra. *Arduin. Mem.* 1. 67. *t.* 11. *Ehrh. Arb.* 58.

WE have formerly gathered this Willow in the meadows opposite King Street, Norwich; but it is now scarcely to be found there, nor does it often occur in other places. At least few of our British botanists appear to have seen it, else they could hardly have so readily followed Hoffmann in considering it one species with *S. Helix, t.* 1343. It agrees indeed with that in having a simple stamen and 4-lobed anthera, but differs in its spreading decumbent habit, never growing up into a tree; the rich purple of its branches, and the somewhat deeper hue of its leaves. More especially is it distinguished, as Mr. Crowe first remarked, by having much more small and slender catkins, a more elliptical germen, and small, ovate, obtuse, nearly sessile stigmas. It flowers in March. The leaves are very often opposite. The floral scales are small, obtuse, and black. The bark has a very bitter taste, as in *S. Helix,* to which this species bears much the same kind of affinity as *S. Lambertiana, t.* 1359, does to *S. Forbiana, t.* 1344.

Decr. 1. 1804. Published by Jas. Sowerby, London.

✓

2.

SALIX Helix.

Rose Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Erect. Stamen one. Leaves lanceolate, pointed, slightly serrated, smooth. Style prominent, cylindrical. Stigmas linear.

SYN. Salix Helix. *Linn. Sp. Pl.* 1444. *Sm. Fl. Brit.* 1040. *Huds.* 427. *Relh.* 385.

S. monandra. *With.* 45. *Hull.* 218. *Sibth.* 16. *Abbot.* 212. *Curt. Lond. fasc.* 6. *t.* 71.

S. humilior, foliis angustis subcæruleis, ex adverso binis. *Raii Syn.* 448.

NOT uncommon in marshy places, osier holts, &c. flowering about the end of March or beginning of April.

It forms a small, slender, upright tree, with long, tough, very smooth and polished, twigs, of a pale yellowish or purplish ash-colour. Leaves (as well as catkins) opposite or alternate on the same plant; the former is a rare circumstance in this genus. Footstalks short. Stipulæ none. The form of the leaves is lanceolate, pointed, very much drawn out, as it were, toward the base into a linear shape. This is a distinguishing character. The serratures are slight, and most in the upper part. There is a little pubescence on the youngest leaves only: the older are quite smooth, of a light, somewhat glaucous, green. Male catkins, about an inch long, on shortish stalks. Scales concave, tipped with black. Nectary oblong, entire. Stamen 1, with a 4-lobed anthera. Female catkins thicker and with broader scales. Germen sessile, ovate, silky. Style very perceptibly projecting, smooth, with linear, at length cloven, stigmas.

We shall take the first opportunity of delineating the much rarer *S. purpurea,* which Hoffmann and Curtis confound with this.

Aug.t 1 1804. Published by Ja.s Sowerby, London.

√

3.

SALIX Lambertiana.

Boyton Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Erect. Stamen one. Leaves obovato-lanceolate, acute, serrated, smooth. Stipulæ none. Stigmas very short, ovate, notched.

SYN. Salix Lambertiana. *Sm. Fl. Brit.* 1041. *Donn. Hort. Cant. ed.* 3. 178.

THIS Willow, though a very distinct species, and readily to be known, whether in blossom or in leaf, from all others, appears to have been overlooked by botanists as no other than *S. Helix.* Mr. Lambert finds it abundantly near his family seat of Boyton, Wiltshire, and from him alone we have received the male plant. He has observed the same species, in leaf, at Stains; we have seen it this summer at Harley-ford not far from Henley upon Thames, and, in company with Mr. Crowe and Sir Thomas Cullum, near Icklingham, Suffolk. It flowers very early in April.

It is most allied to *S. Helix, t.* 1343, and *Forbiana, t.* 1344, agreeing with the former in having frequently opposite leaves and catkins, and with both in general habit, monandrous flowers, and yellow inner bark. It differs however most essentially from both, in having catkins not above half so large and thick, and especially in its stigmas, which are short, ovate, notched, and nearly sessile. The young growing branches and leaves much resemble those of a Honeysuckle, in their glaucous hue with a purplish tinge in their upper part, which is more or less downy. The leaves are of a broad lanceolate figure, dilated above the middle, about half as long as those of *S. Forbiana*, and broader, as well as shorter, than those of *S. Helix.* We could never discern any stipulæ. The present plant is perhaps scarcely inferior to *S. Forbiana* as an osier, and much more common.

Sept.r 1. 1804. Published by Jas. Sowerby, London.

SALIX Forbiana.

Basket Osier.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Erect. Stamen one. Leaves with small stipulæ, lanceolate, acute, finely toothed, smooth, glaucous beneath. Stigmas linear.

SYN. Salix Forbiana. *Sm. Fl. Brit.* 1041.

S. fissa. *Relh.* 385. *Tr. of Linn. Soc. v.* 6. 115; but not of Hoffmann.

THIS, which is highly valuable, as an Osier, for the finer kinds of basket work, and on that account greatly preferred to the foregoing, was first sent to Mr. Crowe by the late Rev. Joseph Forby, from Fincham, Norfolk. It has since been observed in many places in Cambridgeshire. We had long thought it Hoffmann's *S. fissa:* but authentic specimens of that at length undeceived us; neither is the stamen cloven, but simple and monandrous as in *S. Helix.* We have once luckily found 1 or 2 male flowers at the base of a female catkin, which served to decide this point; for the true male plant we have not seen. The name may serve to commemorate the original discoverer, or more especially his brother the Rev. Rob. Forby, an able botanist.

The leaves in this are alternate, rarely almost opposite, truly lanceolate, pointed, of a darker green above, and more thickly toothed or serrated, than in the last; glaucous beneath. Stipulæ small, lanceolate, acute, often wanting. Catkins sessile, so very like in all their parts to *S. Helix* that they can hardly be distinguished; but the leaves afford sufficient marks of difference, and the quality of the twigs renders the plant well worth observation. It flowers in April.

Aug.t 1. 1804. Published by Jas Sowerby, London.

5

SALIX rubra.

Green Osier.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Monadelphous? Leaves linear-lanceolate, elongated, acute, minutely toothed, smooth; green on both sides.

SYN. Salix rubra. *Hudf.* 428. *With.* 49. *Hull.* 218. *Relh.* 386. *Tr. of Linn. Soc. v.* 6. 116.

S. minimè fragilis, foliis longissimis utrinque viridibus non serratis. *Raii Syn.* 449.

GATHERED by the Rev. Mr. Hemsted between Prickwillow and Ely, also at Icklingham, Suffolk. It is a slender tree, of moderate height, when not cut down as an Osier, flowering in April or early in May. The branches are long, slender, tough and pliant, smooth, of a greyish or purplish hue. Leaves alternate, on short slender footstalks, linear-lanceolate, acute, flat, 3 or 4 inches long, very minutely toothed or serrated, grass green, and smooth, on both sides, the young ones only being downy as in most species. The stipulæ but very rarely occur; they are linear-lanceolate and toothed. Female catkins not an inch long, obtuse; their scales elliptical, hairy, purple. Germen ovate, acute, sessile, silky, with a very short style, and ovate thick stigmas. Nectary a yellow, cylindrical, abrupt gland at the base of the germen. The male plant we have never seen, but from analogy the stamina are presumed to be monadelphous; and we think it most useful in this obscure genus to publish but one sex (as the leaves and habit never differ), rather than wait in the vain hope of obtaining both sexes of every species, which can only be the result of many years' laborious search.

S. rubra is among the most valuable Osiers, though little known as yet to botanists. Ehrhart gives it in his dried plants as *S. fissa* of Hoffmann; to which we cannot assent.

March 1 1803 Published by Jas Sowerby, London.

6.

SALIX Croweana.

Broad-leaved Monadelphous Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the ſcales of a catkin. *Cor.* none. *Nectary* a gland at the baſe of the ſtamina. *Stam.* 1—5. Female *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Capſ.* ſuperior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Monadelphous. Leaves elliptical, ſlightly ſerrated, quite ſmooth; glaucous beneath.

SYN. Salix Croweana. *Tr. of Linn. Soc. v.* 6. 117.

AS far as we have been able to aſcertain, this is a perfectly nondeſcript ſpecies of Willow, the only one with united ſtamina and broad leaves, to which we have given the name of its diſcoverer, James Crowe, Eſq. F. L. S. who has obſerved it in ſeveral parts of Norfolk, flowering in April or May. It forms a ſmall irregularly growing tree, with ſhort, brittle, yellow or purpliſh, divaricated branches. Leaves alternate, on broad ſtalks, ſpreading, hardly an inch and a half long, elliptical or ſomewhat obovate, acute, edged with numerous though ſlight ſerratures; ſmooth on both ſides; bright ſhining green above; glaucous and veiny beneath; their points in maturity reflexed and often ſplit. Male catkins ovate, ſhort, and of a bright yellow when young. Scales obovate, hairy, tipped with black. Filaments more or leſs united at their baſe. Antheræ orange-coloured. The female catkins have never been meet with, but they are not wanted to diſcriminate this very diſtinct ſpecies.

This *Salix* is of no uſe as an Oſier, nor have we ſeen it any where cultivated. When in bloſſom it is one of the moſt ornamental, and the leaves are not deſtitute of beauty.

March 1. 1803 Published by Ja. Sowerby London.

7.

SALIX triandra.

Long-leaved triandrous Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Stamina three. Leaves linear-oblong, serrated, smooth. Germen on a stalk.

SYN. Salix triandra. *Linn. Sp. Pl.* 1442. *Sm. Fl. Brit.* 1044. *Tr. of L. Soc. v.* 6. 118. *Huds.* 425. *With.* 45. *Hull.* 217. *Relh.* 384. *Sibth.* 15. *Abbot.* 212. *Curt. Lond. fasc.* 6. *t.* 72. *Hoffm. Sal. v.* 1. 45. *t.* 9, 10. *t.* 23. *f.* 2.

S. folio amygdalino utrinque aurito, corticem abjiciens. *Raii Syn.* 448.

WHEN undisturbed, this species grows to a large tree, and is common in wet woods and hedges, flowering in April or May, and frequently again in August; but being an excellent Osier, it is generally seen treated as such, and cut down every year. It produces tough, pliable and lasting rods 8 or 9 feet long, and its several varieties (which differ in the darkness or straightness of the leaf, and in fecundity of growth) are all valued by basket-makers.

The bark of the trunk and branches scales off annually in large portions, as in the Plane-tree. The young branches are upright, round and smooth. Leaves 2 or 3 inches long, linear-oblong, acute, closely serrated, smooth on both sides, paler beneath, the base narrow, and sloping off (not rounded) towards the stalk. Stipulæ ovate, oblique, crenate, at length rounded and reflexed. Catkins cylindrical, yellow, with hairy blunt scales. Nectary very obtuse. Stamina mostly 3. Germen stalked, ovate, smooth, compressed. Stigmas short, nearly sessile, spreading, cloven.

April 1. 1805. Published by Jos. Sowerby, London.

V

8.

SALIX lanceolata.

Sharp-leaved Triandrous Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Stamina three. Leaves lanceolate, tapering toward each end, serrated, smooth. Footstalks decurrent. Germen on a stalk.

SYN. Salix undulata. *Ehrh. Arb.* 108?

THIS is one of those Willows omitted in the *Flora Britannica* for want of sufficient observations at that time to determine it as a species. It has long been observed by Mr. Crowe, and is perhaps not uncommon. We have lately received specimens, gathered wild in Sussex, from Mr. Woollgar of Lewes, accompanied with many intelligent remarks upon this species, as well as several varieties (as they appear to us) of the foregoing, and some others.

This grows to a small tree, casting its bark like the last, and flowering in April or May. It is easily distinguishable by its much longer, more pointed and tapering leaves, as well as stipulæ, and particularly by the base of the footstalk running down remarkably along the branch. The leaves have often a small pair of leaflets at their base. The germen is more constricted and pointed than in *S. triandra*, but in other respects the parts of fructification nearly accord.

Basket-makers, as Mr. Woollgar informs us, know this well from *S. triandra*, and do not esteem it so much, as the rods when peeled are apt to split in working; but they are very good for brown hampers, crates, &c.

This is very near Ehrhart's *S. undulata*, but his leaves are more rounded at the base, nor do we see how the name applies to our plant.

April 1. 1805. Published by

9.

SALIX amygdalina.

Almond-leaved Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Stamina three. Leaves ovate, oblique, serrated, smooth. Germen stalked. Stipulas large. Young branches furrowed.

SYN. Salix amygdalina. *Linn. Sp. Pl.* 1443. *Sm. Tr. of Linn. Soc. v.* 6. 119. *Fl. Brit.* 1045. *Huds.* 426. *With.* 47. *Hull.* 218. *Relh.* 384. *Lightf.* 596.

S. folio auriculato splendente flexilis. *Raii Syn.* 448. *Cant.* 144.

FOUND about the banks of rivers and ditches in various parts of Britain. We have it from Sussex and Norfolk. In the latter county it is esteemed much inferior, as an osier, to *S. triandra, t.* 1435; but Mr. Woolgar of Lewes mentions it as valued and long cultivated thereabouts, producing a good crop of rods 6 or 8 feet long for many successive years.

Though this species is less arboreous than *triandra*, it will, if allowed to grow, form a small and handsome tree, casting its bark in autumn, flowering in April or May, and frequently again in August. It is characterized by remarkably furrowed young branches; large, rounded, crenate stipulas, which, however, vary in dimensions; and broad oblique leaves, rounded at the base, not sloped off as in *triandra*. The catkins terminate small lateral branches, and are cylindrical, with rounded, slightly hairy, scales; the barren flowers are yellow, with 3 stamens; fertile ones greener. Capsule stalked, ovate, compressed, smooth.

How little Willows have been understood, even by good botanists, appears from the celebrated author of the *Flora Londinensis* confounding this with *triandra* in the letter-press to his *v.* 6. *t.* 72.

Sept.r 1.1808. Published by Jas. Sowerby, London.

10.

SALIX decipiens.

White Welch, or Varnished, Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves lanceolate, serrated, very smooth. Footstalks somewhat glandular. Germen tapering, stalked. Floral leaves dilated and bluntish. Branches smooth and highly polished.

SYN. Salix decipiens. *Hoffm. Sal. v.* 2. 9. *t.* 31. *Fl. Germ. v.* 1. 343. *Winch Guide, v.* 1. 90.

OBSERVED wild by Mr. T. F. Forster near Tunbridge; in Northumberland and Durham by Mr. Winch; by Mr. Woolgar in many moist hedges round Lewes, and by the late Mr. Crowe in a cultivated state, by the name of White Welch Osier, in several osier grounds in Norfolk and Cambridgeshire. Mr. Woolgar says "it produces good rods for basket-work, but in a few years, about Lewes at least, the shoots are so short as not to be worth cultivating."

This forms a small tree of handsome growth, flowering in May. It is readily known by the very smooth shining bark of its last-year's shoots, which is of a light reddish brown, or clay-colour, appearing as if varnished. The young twigs are often stained beautifully with crimson. Leaves very much akin to those of *S. Russelliana, t.* 1808, but mostly smaller; and those borne on the short flowering branches of *S. decipiens* are remarkably different from *Russelliana,* being obtuse, nearly obovate, and recurved, except only the upper one. Stamens 2, very rarely 3. Nectary in the male double. Germen stalked, tapering, smooth. Scales all elliptic-oblong, hairy.

Decipiens is but a bad name, and Hoffmann's account, though very correct, incomplete. Roth merely copies it in his *Fl. Germ. v.* 2. *p.* 2. 506. We have compared authentic specimens.

Oct. 1808. Published by Jo. Sowerby London.

SALIX decipiens.

White Welch, or Varnished, Willow.

DIOECIA Diandria.

Gen. Char. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

Spec. Char. Leaves lanceolate, serrated, very smooth. Footstalks somewhat glandular. Germen tapering, stalked. Floral leaves dilated and bluntish. Branches smooth and highly polished.

Syn. Salix decipiens. *Hoffm. Sal. v.* 2. 9. *t.* 31. *Fl. Germ. v.* 1. 343. *Winch Guide, v.* 1. 90.

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Decipiens is but a bad name, and Hoffmann's account, though very correct, incomplete. Roth merely copies it his *Fl. Germ. v.* 2. *p.* 2. 506. We have compared aut' specimens.

SALIX Russelliana.

Bedford Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves lanceolate, tapering at each end, serrated throughout, very smooth. Footstalks glandular. Germen tapering, stalked, longer than the scales.

SYN. Salix Russelliana. *Sm. Fl. Brit.* 1045.

GREAT disputes have arisen respecting this Willow since the late Duke of Bedford first brought it into notice for its tall quick growth and valuable properties, and the late Mr. Biggin, under his Grace's patronage, ascertained its bark to be peculiarly good for tanning. The present Duke has also paid great attention to it. We are obliged to him for living plants, and some remarks concerning the differences of opinion above alluded to. It was first made known by the name of the Leicestershire or Dishley Willow, being supposed peculiar to that neighbourhood; but it is found throughout the midland and southern counties, being in fact what is often taken for *S. fragilis*, by which name it was known to many cultivators, who had not discovered its merits, and who, when those merits were published, made light of them, because they already knew the plant. The excellent author of the *Bedford Flora* was one of the first botanists who ascertained these species to be distinct.

The whole hue of *S. Russelliana* is lighter than that of *fragilis*, especially the leaves, which are also more firm, and narrower, tapering at the base, and not rounded, or ovate; their serratures are more coarse and irregular; mid-rib much stouter. The glands of the footstalks sometimes become leaflets. Germen longer than the scale, more tapering and awlshaped than the last, with a longer stalk and style. The male plant we have not seen.

Nov. 1809. Published by Jas. Sowerby.

SALIX fragilis.

Crack Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves ovato-lanceolate, pointed, serrated throughout, very smooth. Footstalks glandular. Germen ovate. Male flowers with an abortive germen.

SYN. Salix fragilis. *Linn. Sp. Pl.* 1443. *Sm. Fl. Brit.* 1051. *Huds.* 426. *With.* 47. *Hull.* 218. *Relh.* 385. *Sibth.* 16. *Abbot.* 212. *Dicks. H. Sicc. fasc.* 16. 5.

S. folio longo latoque splendente, fragilis. *Raii Syn.* 448. *Cant.* 143. *n.* 3.

NOT unfrequent in low marshy grounds, about the banks of rivers, flowering in May. Several trees of this species are to be seen at Mill-bank, Westminster, and other parts of that neighbourhood. The name alludes to its extreme brittleness, in the spring, at the base of the young branches, which, with the slightest blow, start from the trunk. This circumstance however is observable in several other smooth willows.

S. fragilis forms a large bushy tree, remarkable for the crooked position of its branches, and its large, broad, dark and shining leaves, which incline to an ovate figure when fully grown, being more or less rounded towards the base. Their serratures are numerous, uniform and regular, a little incurved, glandular, but scarcely viscid. Footstalks glandular at the top. Stipulas half-heartshaped, toothed. Catkins in separate buds from the leaves, on shortish leafy stalks. The male ones yellow, with rounded hairy scales. Stamina from 2 to 5, smooth, with a rounded nectary, and an incurved abortive germen. Female scales longer. Germen inclining to ovate, smooth, the length of the scale, nearly sessile. Stigmas cloven to the base, narrow. Style short.

We are now well acquainted with *S. decipiens* of Hoffmann, and find it very different from this.

Nov. 1 1807. Publish'd by Ja.s Sowerby London.

SALIX pentandra.

Sweet, or Bay-leaved Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Stamina five or more. Leaves elliptic-lanceolate or ovate, pointed, crenate, glandular, smooth. Germens smooth, nearly sessile.

SYN. Salix pentandra. *Linn. Sp. Pl.* 1442. *Sm. Fl. Brit.* 1046. *Tr. of L. Soc. v.* 6. 120. *Huds.* 426. *With.* 46. *Hull.* 218. *Lightf.* 595. *Dicks. H. Sicc. fasc.* 3. 15.

S. folio laureo, seu lato glabro odorato. *Raii Syn.* 449.

MY attention to the Willows has been for a while suspended, and I return to the consideration of such as remain to be figured in this work, among which are many not in the *Fl. Brit.*, with that reluctance and diffidence which the loss of a constant companion and fellow-labourer, who had the subject ever before him, cannot fail to excite. It now becomes a duty to make known the unpublished remarks of my late friend Mr. Crowe, and to take care that the treasures he had collected should not prove useless.

S. pentandra is one of the species most familiar to botanists. It grows about rivers in the north of England and south of Scotland, flowering in June or July, and forming a handsome small tree. The leaves are broad and ovate when in perfection, smooth and shining, pointed, closely crenate rather than serrate, with a yellow fragrant gland at each notch, causing the bay-like scent for which the plant is valued. Footstalks glandular. Stipulas scarcely any. Male catkins yellow, fragrant and handsome. Stamens in a cultivated state from 6 to 9, hairy, as are the scales. Female catkins with hairy scales, but smooth lanceolate germens. Style shortish. Stigmas cloven. This tree is chiefly cultivated for ornament. *S. hexandra* of Ehrhart is very different, having narrow leaves.

Oct. 1. 1807. Published by Ja.s Sowerby London.

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SALIX nigricans.

Dark-broad-leaved Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1---5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Sigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves elliptic-lanceolate, crenate, smooth; glaucous beneath. Germen lanceolate, acute, silky, stalked.

SYN. Salix nigricans. *Tr. of Linn. Soc. v.* 6. 120.
S. phylicifolia *β. Linn. Sp. Pl.* 1442. *Fl. Lapp. n.* 350. *t.* 8. *f.* c.

WE have already, at *t.* 1145, apologized for publishing but one sex in this difficult genus when we could not obtain both, as is the case with the present species, of which the male only has come under our inspection in a living state. Female specimens are indeed in the Linnean herbarium, but what is mentioned as the female in *Tr. of L. Soc. v.* 6. 121, seems on mature consideration to be possibly different.

The male *S. nigricans* has been observed by Mr. Crowe at Wrongay fen, Norfolk, and in osier grounds in many places. It flowers in April. The stem scarcely forms a tree, though it sometimes rises to 10 or 12 feet in height, with many, irregular, straightish, brittle, dark-coloured branches; the young ones downy. Leaves 3 inches long, lanceolate, somewhat elliptical, acute, scarcely rounded at the base, crenate in every part; dark-green and smooth above, turning black when dried; beneath glaucous, veiny, sometimes a little downy. Stipulæ large, obliquely cordate, serrated, smooth, veiny. Catkins yellow, about an inch or more in length, thick and obtuse, their scales obovate, narrow, brown in their upper half, hairy. Stamina 2, distinct, thicker upwards, more or less hairy below. Capsules (in the Linnean specimen) lanceolate, brown, downy, each on a little partial stalk.

Septr 1 1803 Published by Ja^s Sowerby, London.

15.

SALIX bicolor.

Shining Dark-green Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

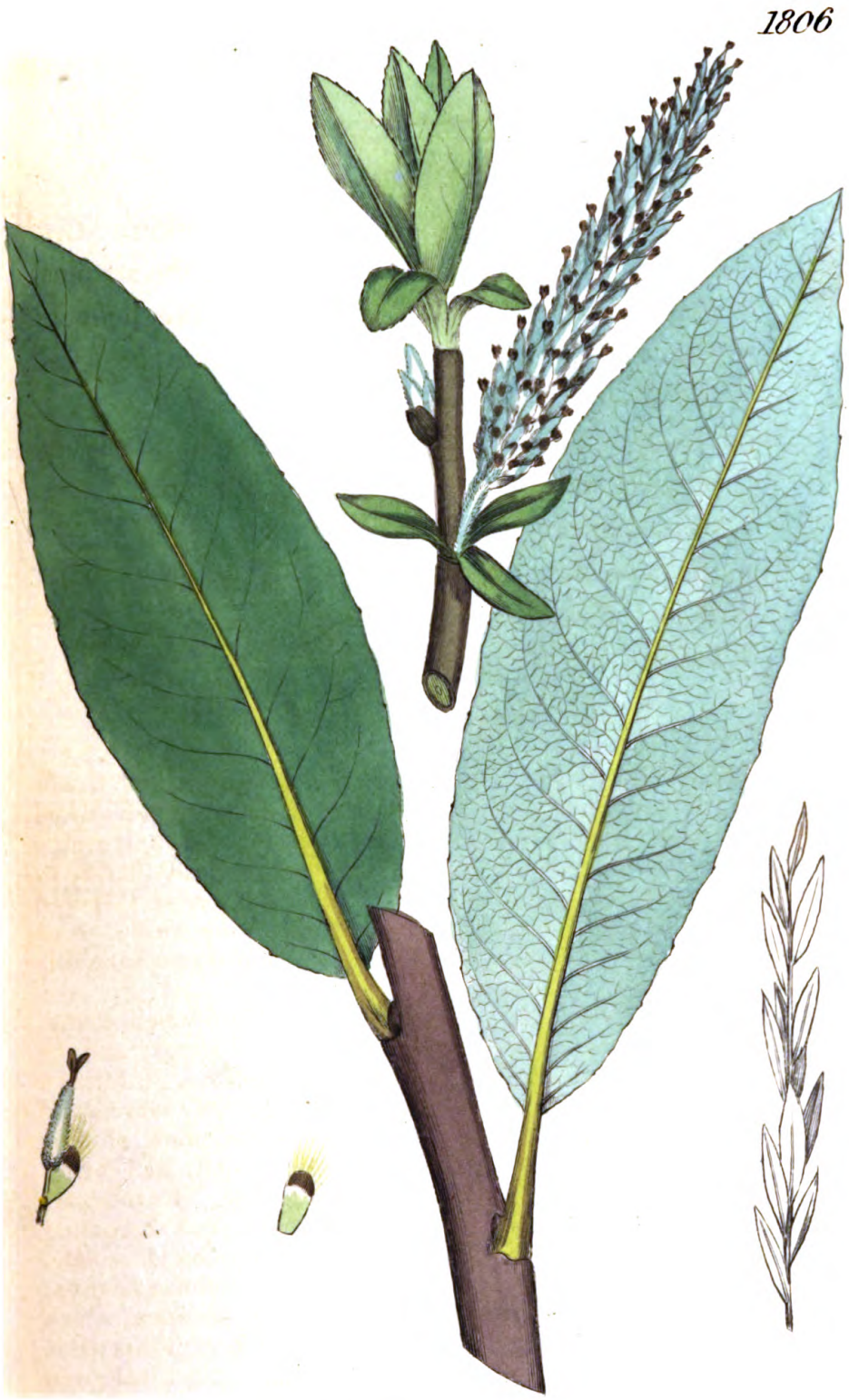
SPEC. CHAR. Leaves elliptical, acute, waved and slightly serrated, nearly smooth; glaucous beneath. Germens stalked, lanceolate, silky.

SYN. Salix bicolor. *Ehrh. Arb.* 118. *Sm. Fl. Brit.* 1048. *Winch Bot. Guide, v.* 1. 89.

S. laurina. *Sm. Tr. of L. Soc. v.* 6. 122.

OBSERVED by Mr. Crowe to be not unfrequent in woods in Norfolk. Cuttings of it were taken indiscriminately from thence along with *S. caprea, t.* 1488, to plant for the purpose of making hurdles; but the unfitness of the species before us for that use, led to a discovery of their difference. Indeed nothing but the botanical inattention which the whole genus has so long experienced, could have occasioned two such different species to be confounded.

S. bicolor grows in an upright wand-like form when young, and is known by its dark mahogany-coloured stems, and the upright stiff position of its leaves. If neglected, it forms a small tree. The leaves are large, elliptical, acute, waved and obscurely serrated or toothed, nearly smooth; dark shining green above; glaucous beneath. Stipulas small, half heart-shaped, serrated. Footstalks broad at the base. Female catkins an inch long when in full flower, but soon becoming twice as long. Scales rounded, very hairy. Germen lanceolate, stalked, silky. Style short, with roundish, notched stigmas. The male I have only seen in Ehrhart's dried specimen, which appears to be certainly the same species, and I adopt his name with the more pleasure, as it is more apt than what I had given already.



Oct. 1807. Published by Jas. Sowerby London.

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16.

SALIX petiolaris.

Dark long-leaved Willow.

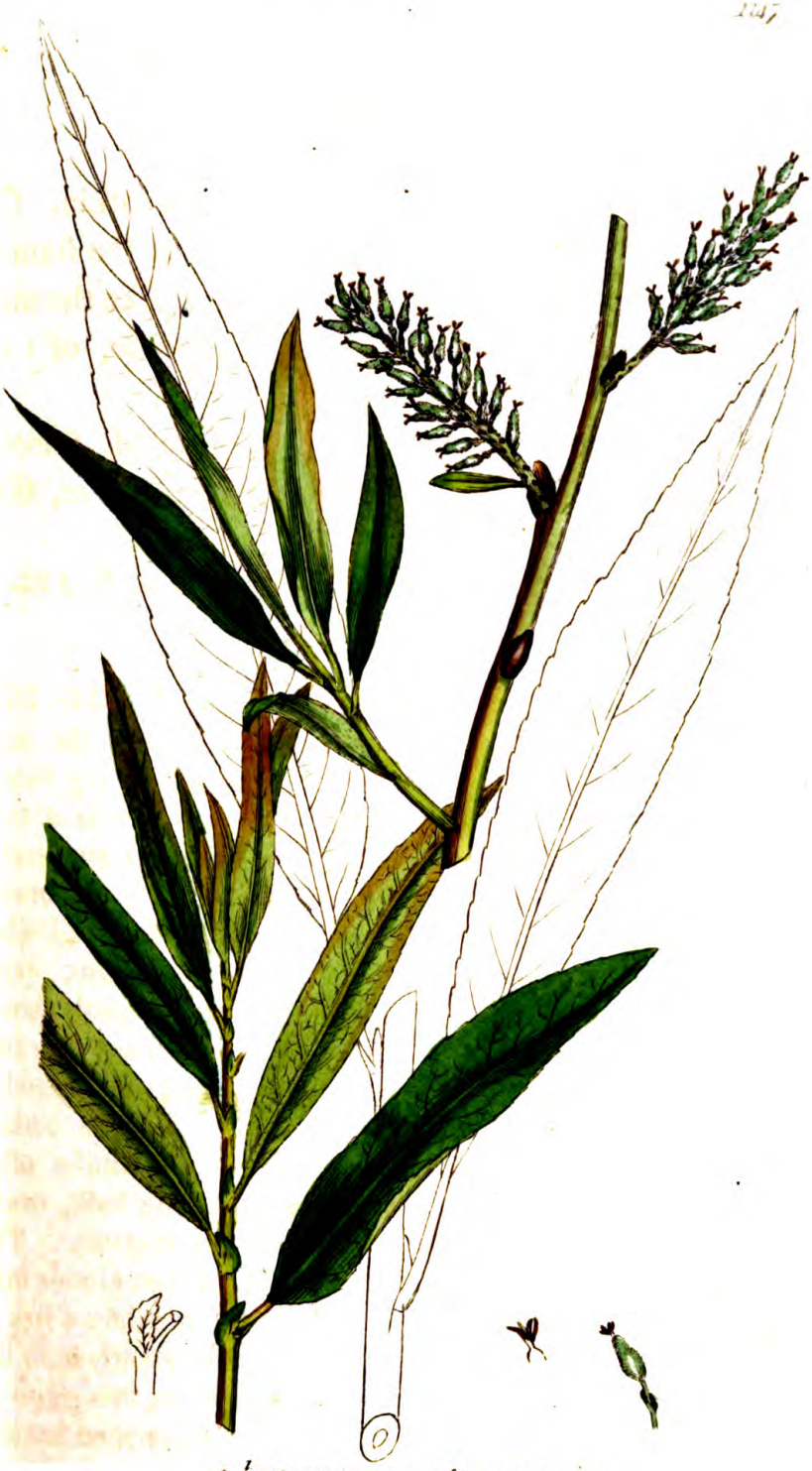
DIOECIA Diandria.

Gen. Char. Male, *Cal.* the ſcales of a catkin. *Cor.* none. *Nectary* a gland at the baſe of the ſtamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Capſ.* ſuperior, of 1 cell and 2 valves. *Seeds* downy.

Spec. Char. Leaves lanceolate, ſerrated, ſmooth; glaucous beneath. Germen ſtalked, ovate, ſilky. Stigmas ſeſſile, cloven.

Syn. Salix petiolaris. *Tr. of Linn. Soc. v. 6.* 122.

FOR this new ſpecies of *Salix* we are obliged to Mr. Dickſon, who found it in ſome part of Great Britain, the exact place is not remembered, and ſent it in a growing ſtate to Mr. Crowe. We only know the female, which is a ſmall ſpreading tree, flowering in April. The branches are ſlender, flexible, round, ſmooth, more or leſs purple or brown. Leaves 4 or 5 inches long and almoſt an inch broad when full-grown, lanceolate, pointed, ſerrated throughout, generally unequal at their baſe; bright-green and ſmooth above; glaucous and often a little hairy beneath; in drying they turn almoſt black. Footſtalks remarkably long and ſlender. Stipulæ ſmall, lunate, ſmooth, toothed. Female catkins ſcarcely an inch long, on ſtalks. Scales ſmall, obtuſe, often notched, black and hairy. Germen on a long ſtalk, ovate, ſilky, with two ſeſſile, ovate, blunt, cloven ſtigmas. The very young leaves are tinged with an elegant ferruginous hue, eſpecially in the radical ſhoots which ſpring up when a tree is cut down. Such ſhoots in ſome ſpecies differ greatly from the general appearance of the plant, and require in this genus to be particularly attended to. The ſtigmas and germen are alſo of great moment in diſcriminating many ſpecies.



Apl 1 1803. Published by Jas Sowerby London.

17.

SALIX phylicifolia.

Tea-leaved Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves elliptic-lanceolate, with wavy serratures, smooth; glaucous beneath. Stipulas somewhat lunate, glandular on the inside. Germen stalked, silky. Style elongated.

SYN. Salix phylicifolia. *Linn. Sp. Pl.* 1442, α. *Fl. Lapp. ed.* 2. 291. *t.* 8. *f.* d. *n.* 351. *Sm. Fl. Brit.* 1049. *Tr. of Linn. Soc. v.* 6. 123.

S. radicans. *Sm. Fl. Brit.* 1053.

CUTTINGS of this willow were originally sent to Mr. Crowe from Scotland by Mr. Dickson. Having for several seasons observed its growth, and this summer its female catkins, I am enabled with certainty to reduce it to the *phylicifolia*, which latter I had only known by Mr. Lightfoot's specimen, gathered young in Breadalbane by the Rev. Dr. Stuart, and exactly agreeing with the authentic Lapland one in the Linnæan herbarium. Having tried in vain to obtain the plant of Dr. Stuart alive, I have the more pleasure in finding myself already possessed of it, under another name, which must now give way to the older appellation.

This is a low tree or rather bush, whose long spreading decumbent branches take root as they extend on all sides. The young twigs are purplish or brown. Leaves scattered, not much spreading, on short stalks, elliptic-lanceolate, acute, 2 inches long, smooth, harsh, bitter, variously crenate or serrated, the serratures peculiarly undulated; upper side dark and shining; under glaucous. Stipulas small, lunate, glandular towards the base on the inside. Catkins from separate buds, stalked, cylindrical. Scales linear, silky at the back. Germen stalked, ovato-lanceolate, silky. Style smooth. Stigmas small, cloven.

Dec. 1. 1808. Published by Jas. Sowerby London.

18.

SALIX Arbuscula.

Little Tree Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves lanceolate, very obscurely toothed, smooth, mostly without stipulæ. Branches downy. Catkins ovate, erect.

SYN. Salix Arbuscula. *Linn. Fl. Lapp. ed.* 2. 297. *t.* 8. *f.* m. *Sp. Pl.* 1445, γ. *Sm. Fl. Brit.* 1050.

GATHERED by Mr. Dickson in the highlands of Scotland. We have carefully compared it with Linnæus's Lapland specimen, the original species, though made a variety in *Sp. Pl.*, and find no difference between them. It flowers in April.

The stem is erect, slender, about a foot high, naked below like a little tree, the branches spreading and downy. Leaves on very short stalks, moderately spreading, lanceolate, but liable to vary greatly in breadth, flat, finely veined, at first sight apparently entire, but on accurate inspection they will be found obsoletely toothed, as Linnæus rightly asserted in *Fl. Lapp.* When young they are silky, but when full grown quite smooth above, and nearly so below. Their colour is rather a light green. Of stipulæ no vestiges are to be found, except sometimes on extremely luxuriant radical shoots, where they are small lanceolate and flat. On such shoots the leaves become quite ovate and very broad; see figure. Catkins lateral, nearly sessile, erect, ovate, short. Scales oblong, notched, purplish, hairy. Germen silky, ovato-lanceolate, on a short stalk. Stigmas broad, ovate, tawny, with a very short style.

In natural affinity this comes near to the last, but on account of its smooth leaves Linnæus has placed them far asunder.

Fl. Dan. t. 1055 must be a different species from our plant.

Oct.r 1 1804. Published by Ja.s Sowerby, London.

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19.

SALIX vitellina.

Yellow Willow, or Golden Osier.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves lanceolate, acute, with cartilaginous serratures; smooth above. Stipulæ small and deciduous; smooth on their inside. Stigmas notched.

SYN. Salix vitellina. *Linn. Sp. Pl.* 1442. *Sm. Fl. Brit.* 1050. *Huds.* 426. *With.* 47. *Hull.* 218. *Sibth.* 16. *Hoffm. Sal. v.* 1. 57. *t.* 11, 12. *t.* 24. *f.* 1. *Ehrh. Arb.* 78.

S. folio longo subluteo, non auriculata, viminibus luteis; eademque viminibus rubris. *Raii Syn.* 450.

NOT unfrequent in osier-grounds; but we had scarcely seen native specimens till Mr. Crowe observed it abundantly in rough low pastures at Ovington near Watton, Norfolk, unquestionably wild. Of late it has become fashionable for planting in low situations, being a handsome tree of a moderate height, conspicuous for its gracefully pendent golden twigs; the tips of which however are often killed by severe cold, and look shabby in the spring, like the exotic Weeping Willow.

The leaves are lanceolate, narrow, long-pointed, silky when young; their serratures glandular, small and uniform. Stipulæ small, serrated, deciduous, mostly altogether wanting; their upper side smooth. The catkins come out in April or May, and are yellow, acute, with wrinkled hairy scales. Stamina 2, very rarely 3. Nectary of 2 or 3 notched scales. Germen lanceolate, sessile. Stigmas notched. The above description may serve to correct the *Fl. Brit.* and Hoffmann, especially concerning the stipulæ.

Haller very erroneously supposed this not distinct from *S. alba.*

Dec.r 1. 1804. Published by Jas. Sowerby, London.

SALIX tenuifolia.

Thin-leaved Willow.

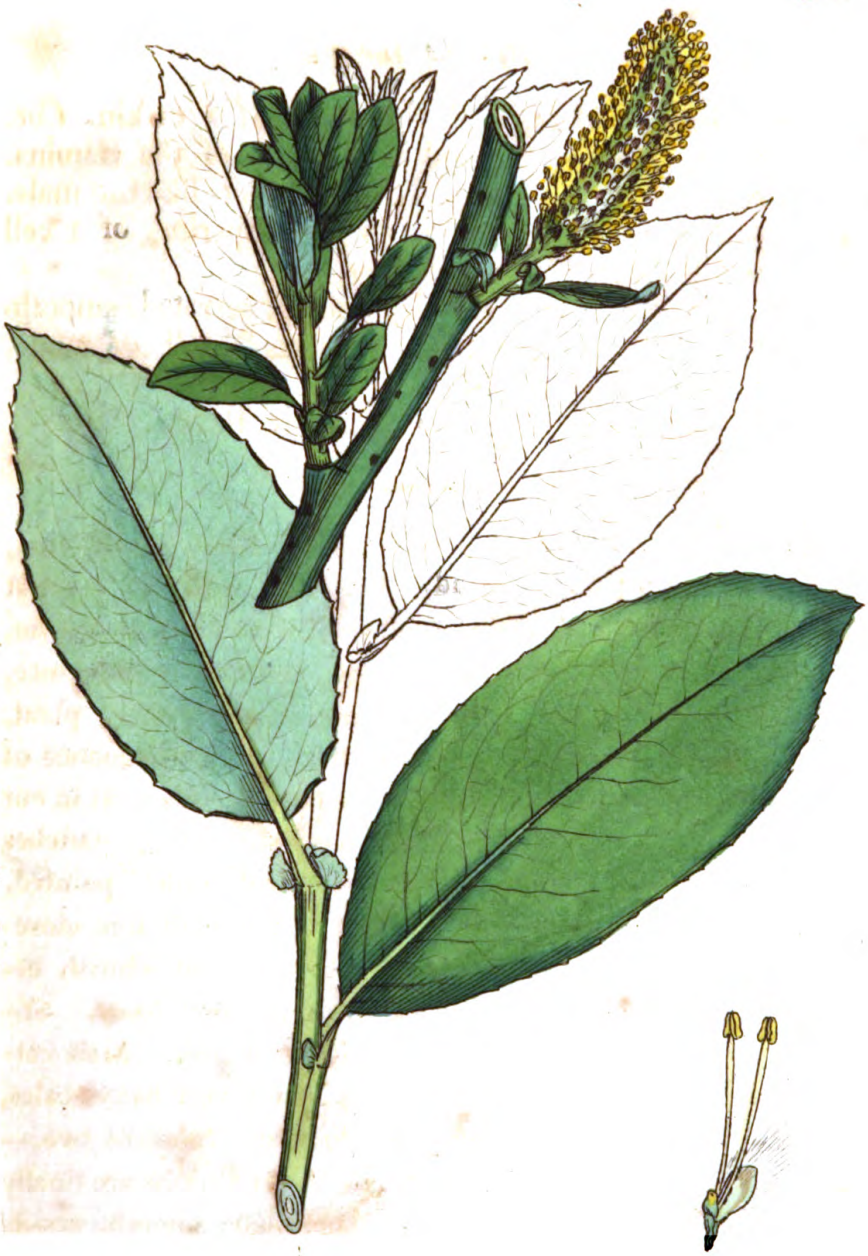
DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* & *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves elliptical, acute, serrated, smoothish, glaucous beneath. Stipulas small or none. Capsules very smooth.

SYN. Salix tenuifolia. *Sm Fl. Brit.* 1052.

DRAWN from the garden of Mr. T. F. Forster at Clapton, who received it from Scotland. We have with the greatest care compared it with our original specimens of *S. tenuifolia*, gathered near Kirkby Lonsdale bridge, and find no difference, except the greater size and luxuriance of the present plant, which rises to the height of a small tree. In consequence of this luxuriance, the stipulas are more considerable than in our wild specimens. It flowers in May.—The young branches are very slightly downy. Leaves elliptical, rather pointed, slightly serrated, besprinkled when young with fine close-pressed hairs; bright green above; glaucous and whitish beneath, reticulated with veins; the rib sometimes hairy. Stipulas small, somewhat falcate, serrated, smooth. Male catkins yellowish, about an inch long, with very hairy scales, which in Mr. Forster's plant are elliptical. Stamens two.—In the wild Westmoreland female shrub the catkins are finally an inch and half long, with ovato-lanceolate, smooth, sessile capsules, a long style, and rather thick notched stigmas.—The original Westmoreland plant seems to vary in degree of pubescence, and in shape of the scales of the male catkin.



Aug 1 1810 published by J. Somerby London.

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21.

SALIX malifolia.

Apple-leaved Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves elliptic-oblong, toothed, waved, thin and crackling, very smooth. Stipulas heart-shaped, very large.

SYN. Salix malifolia. *Sm. Fl. Brit.* 1053.

MR. CROWE, who has for many years been in the habit of taking cuttings of Willows, in his rides about Norfolk and Suffolk more especially, wherever he found them, in order to cultivate and investigate them at leisure, has by this means several whose precise places of growth he cannot now recollect. The present plant is so circumstanced; but Mr. Crowe is persuaded he found it wild in some part of Norfolk, and from the habit one would suppose it an upland species.

It forms a spreading shrub 3 or 4 feet high, blossoming in April, and when in leaf is very remarkable for having somewhat of the habit of an apple-tree. The twigs are crooked, brittle, of no use, hairy when young, blackish. Leaves on short thick stalks, 2 inches long, smooth, veiny, obovate or elliptical, pointed, their margin waved and closely toothed; their under side glaucous; their substance thin, harsh and crackling. Stipulas large, recurved, heartshaped, toothed. Female catkins an inch long, erect, thick, obtuse; their scales roundish, entire, clothed with long dense soft hairs. Germen long and tapering, smooth. Style not half so long as the germen, with a short simply divided stigma.

That this *Salix* is new to Britain there can be no doubt. There is some difficulty in distinguishing it from the exotic *S. hastata*, but the latter is a considerable tree, with a more erect habit, broader less undulated leaves, and rather larger catkins. They seem to differ nearly as *S. caprea* and *aquatica* do from each other, but we must leave the matter to future decision.

July 1. 1806 Published by Jas. Sowerby, London.

SALIX myrsinites.

Green Whortle-leaved Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves elliptical, serrated, smooth, veiny, polished on both sides. Young branches hairy. Capsules awlshaped, downy.

SYN. Salix myrsinites. *Linn. Sp. Pl.* 1445. *Fl. Lap. n.* 353. *Sm. Fl. Brit.* 1054. *Hoffm. Sal. v.* 1. 71. *t.* 18, and possibly 17. *Fl. Dan. t.* 1054.

S. retusa. *Dichs. Tr. of L. Soc. v.* 2. 288. *With.* 48. *Hull.* 218.

SPECIMENS gathered by Mr. Stuart on the mountains of Glen-co, a spot too celebrated in the reign of King William III., prove this species to be British. These are in Mr. Lightfoot's herbarium; and he has written upon them, "I take this to be *S. myrsinites* rather than that I had before:" in which he is right. His own *myrsinites* however (my *prunifolia*) has till now gone by that name among us; and hence Mr. Dickson, who also found the true one in Scotland, took that for *S. retusa*. Both are confounded together by Hoffmann, because he received them both as *myrsinites* from his correspondents.

Our true kind is a little sturdy upright shrub, scarcely 2 feet high, with numerous short thick divaricated branches, hairy when young. It blossoms in April, May, or even June. The leaves are rigid, shining, elliptical, broad, serrated, recurved, very green, veiny; their withered skeletons often remain on the branches through winter. The young leaves are a little silky. Stipulæ serrated, smooth, spreading, often very large. Catkins terminal, erect, thick and obtuse, purplish. Antheræ blueish. Scales obovate. Nectary notched. Capsule tapering, downy when young. Stigmas oblong, cloven.

Septr. 1. 1804. Published by Jas. Sowerby, London.

SALIX prunifolia.

Plum-leaved Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves ovate, serrated, naked; smooth and even above; glaucous beneath. Branches rather downy. Capsules ovate, silky.

SYN. Salix prunifolia. *Sm. Fl. Brit.* 1054.

S. myrsinites. *Lightf.* 599. *Huds.* 427? *Hoffm. Sal. v.* 1. *t.* 19.

OUR figure was taken from the very shrub sent by the late Mr. Lightfoot as his *S. myrsinites,* and now growing in Mr. Crowe's garden. This plant agrees moreover with his specimens at Frogmore, and seems not to be rare on the Scottish mountains. It flowers with us in April or May.

The stem is often 3 feet high, but less constantly erect than in the foregoing, and its branches are commonly more lax, spreading and elongated; the young ones clothed with soft short curved down, not rigid prominent hairs. Leaves larger, ovate, flat, serrated; quite smooth green and shining, without any prominent veins, on the upper side; glaucous, veiny, and often silky, beneath. Stipulæ very minute, half-ovate, convex, notched, often wanting. Catkins from short lateral branches, erect, cylindrical, not half so thick as in the real *myrsinites,* with round, very hairy or silky, scales. Nectary oblong. Capsules smaller than in that species, ovate, clothed with silky hairs, at least while young. Stigmas short, thick and roundish, cloven.

Sept.r 1. 1804. Published by Jas Sowerby, London.

SALIX venulosa.

Veiny-leaved Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves ovate, serrated, naked; reticulated with prominent veins above; rather glaucous beneath. Capsules elliptical, silky.

SYN. Salix venulosa. *Sm. Fl. Brit.* 1055.

TO Mr. Crowe I am obliged for first remarking the difference between this plant and the last. It was collected, with many others, by Mr. Dickson in the highlands of Scotland, and Mr. Winch has received specimens of the same from thence. It flowers in Mr. Crowe's garden either late in April or early in May.

In size, and general habit, as well as in the stipulæ, this closely accords with *S. prunifolia;* but the leaves differ materially in having their upper surface always elegantly reticulated with a number of prominent veins, especially towards the margin. These are very apparent in the dry as well as in the living leaf. The under surface is less glaucous in general than in the species last described, but this character varies. The fructification also differs. The catkins are rather more slender; their scales ovate and obtuse; capsules smaller, elliptical rather than ovate, more silky, with a shorter style; the stigmas agree.

There are several specimens in Mr. Lightfoot's herbarium which, by their capsules, seem to belong to this species.

Sept.r 1 1804. Published by Ja.s Sowerby, London.

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SALIX vacciniifolia.

Bilberry-leaved Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. *Female, Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves ovate, serrated; smooth and even above; glaucous and silky beneath. Capsules ovate, silky. Stems decumbent.

SYN. Salicis prunifoliæ varietas. *Sm. Fl. Brit.* 1055. S. myrtilloides. *Donn. Cant. ed.* 5. 231.

COMMUNICATED by Mr. George Anderson, F.L.S., from his garden. It appears to be not uncommon in Scotland, especially in the south. We had specimens near thirty years ago from the garden of the Rev. Dr. Walker at Moffat, who is said to have given this species the name we have adopted, and we have never been able satisfactorily to refer those specimens either to our *S. prunifolia, t.* 1361, or *venulosa, t.* 1362; neither were we quite certain of one from the Rev. Dr. Stuart, mentioned in *Fl. Brit.* under the former.

The present plant differs from *prunifolia* in its humble, partly procumbent, mode of growth, smaller size, slender branches, and narrower leaves, which are much more silky beneath with close-pressed hairs. In their catkins we find no material disagreement. It differs from *venulosa* in the even upper surface of the leaves, and thicker catkins.—The plant before us may possibly be the *myrtilloides* of Villars, of which we have a morsel from the author, but it is not that of Linnæus.—The reader will please to observe, that where silkiness of leaves, or downiness of branches, is mentioned in our account of *prunifolia*, we had rather this species in view, as a supposed variety, in which those characters are, at least, more remarkable.

Oct. 1. 1811. published by Jas. Sowerby London.

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26.

SALIX carinata.

Folded-leaved Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves ovate, finely toothed, smooth, minutely veined, folded so as to form a keel. Capsules ovate, downy.

SYN. Salix carinata. *Sm. Fl. Brit.* 1055.

ALLIED to the two preceding, but abundantly distinct. Mr. Dickson communicated it living from the Scottish highlands. It flowers in our gardens in April.

It is a larger and more upright shrub than *S. prunifolia* and *venulosa;* the young branches are elongated and straight, nearly smooth. Stipulæ extremely minute, but shaped as in those species. Leaves elliptical, acute, minutely toothed rather than serrated, remarkably recurved and sharply keeled, so that the two sides approach each other, and the leaf cannot be pressed flat. Both surfaces are smooth and finely veined; the upper one green and shining, the under paler, opaque, slightly glaucous. In their very earliest state only the leaves are silky beneath. On the old branches a sort of tooth is observable where each footstalk had previously stood. The catkins are small and ovate, with short roundish concave hairy scales. Germen twice as long as its corresponding scale, ovate, silky. Stigmas nearly sessile, ovate, thick and short, at length notched.

We find no notice taken by any author of this Willow or the last.

Oct. 1. 1804. Published by Jas. Sowerby, London.

27.

SALIX Dicksoniana.

Broad-leaved Mountain Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves elliptical, acute, slightly toothed, smooth. Young branches very smooth. Catkins ovate, short, erect. Germen silky.

SYN. Salix myrtilloides. *Sm. Fl. Brit.* 1056, but not of Linnæus nor Villars.

HAVING only seen the leaves of this Willow when the *Fl. Brit.* was written, I referred it, though not without some scruples, to the *S. myrtilloides* of Linnæus. Its catkins however, produced last spring, clearly prove it to be a new species, to which we now give the name of that very eminent botanist who first found it on the Scottish mountains, and from whose growing specimens, cultivated by Mr. Crowe, our figure and description are taken.

This is a small upright branched shrub, about a foot high, flowering in April, quite smooth in all its branches, leaves and stalks. Stipulæ very minute, like those of *S. carinata.* Leaves on short thickish footstalks, flat, elliptical, acute, with obsolete glandular teeth or serratures; the upper surface very even, and bright green; the under glaucous, finely veined. Female catkins ovate, very short, being like those of *S. rosmarinifolia* in shape, but erect. Scales dark purplish brown, concave, notched, hairy. Germen stalked, ovate, silky, with a short style, and thick yellow notched stigmas.—The germens of the true *myrtilloides* are quite smooth, the catkins cylindrical and lax, and the leaves perfectly entire. Of this we have seen no British specimens.

Dec.r 1. 1804. Published by Jas. Sowerby, London.

SALIX herbacea.

Least Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves orbicular, serrated, reticulated with veins, very smooth and shining on both sides. Capsules smooth.

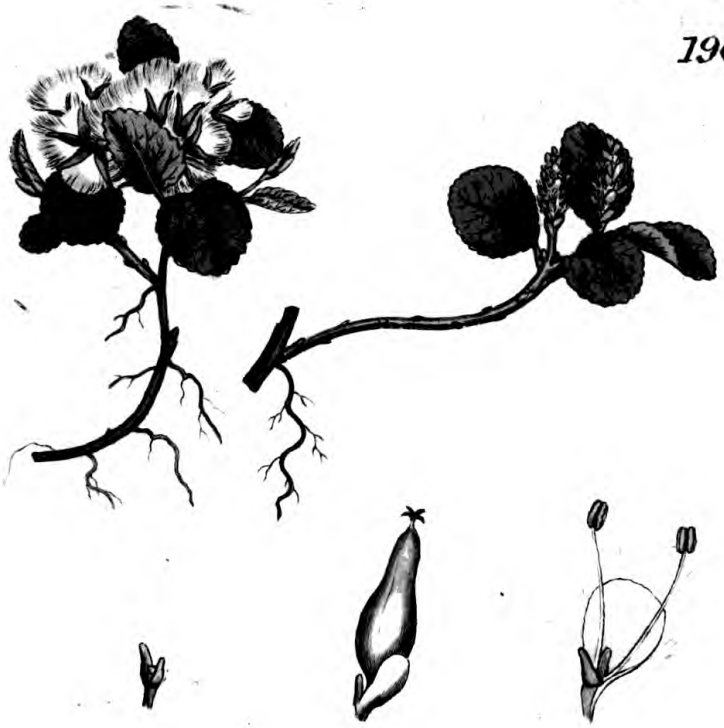
SYN. Salix herbacea. *Linn. Sp. Pl.* 1445. *Fl. Lapp. ed.* 2. 294. *t.* 8. *f.* h. *t.* 7. *f.* 3, 4. *Sm. Fl. Brit.* 1056. *Huds.* 427. *With.* 48. *Hull.* 218. *Lightf.* 600. *Fl. Dan. t.* 117. *Hoffm. Sal. v.* 1. 74. *t.* 20.

S. alpina, alni rotundo folio repens. *Dill. in Raii Syn.* 448.

THIS is one of the least of all shrubs, for being a Willow it is certainly a shrub, and the stems, short as they are, being scarcely an inch or two high, are truly woody and perennial. The woody roots are of greater extent, creeping and running deep into the rocky micaceous soil which this species inhabits about the tops of the highest mountains of Scotland, Wales and Cumberland. We have gathered it on Ben Lomond. It blossoms in June, and the capsules ripen in August.

Leaves on short footstalks, as correctly orbicular as in almost any plant, serrated all round, sometimes emarginate, very smooth, shining, reticulated, rather rigid, deciduous. We have found no stipulas. Catkins terminal, solitary, on short stalks, lemon-coloured, ovate. Scales obovate, internally hairy in the male only, as far as we can perceive. Nectary of 2 ovate glands. Stamens distinct. Germen nearly sessile, ovate, taper, smooth, reddish as it ripens. Style very short. Stigmas small, deeply cloven.

1907



July 1808. Published by Jas. Sowerby London

29.

SALIX reticulata.

Wrinkled Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves orbicular inclining to elliptical, obtuse, entire, smooth, reticulated with veins; glaucous beneath. Capsules shaggy.

SYN. Salix reticulata. *Linn. Sp. Pl.* 1446. *Fl. Lapp. ed.* 2. 296. *t.* 8. *f.* 1. *t.* 7. *f.* 1, 2. *Sm. Fl. Brit.* 1057. *Huds.* 428. *With.* 49. *Hull.* 218. *Lightf.* 601. *Dicks. Dr. Pl.* 44. *Fl. Dan. t.* 212. *Hoffm. Sal. v.* 2. 3. *t.* 25—27.

S. pumila, folio rotundo. *Raii Syn.* 449.

SENT us from the Scottish mountain of Ben Lawers by the late Mr. A. Bruce, but in a dried state, so that we have had recourse to the Hon. C. Greville's garden in order to be correct in our colours, and to an exotic specimen for the male catkin. It is one of the most elegant of our Alpine plants, and is found also in Wales and Yorkshire, blossoming in June or July.

The roots are thick and woody, and the branching stems cling close to their native rocks, forming a carpet or tapestry over them. Leaves on long footstalks, without stipulas, an inch broad, orbicular or elliptical, smooth, rigid and coriaceous, entire, though the projection of the spaces between the beautiful net-work of the veins sometimes gives an appearance of notches; they are dark green and shining above; glaucous and opaque beneath. When young they are finely downy. Catkins on longish, terminal, red, downy stalks, cylindrical, many-flowered, reddish. Scales obovate, woolly. Nectary, in the female at least, of 4 awlshaped glands. Germen and capsule ovate, sessile, cottony. Stigmas deeply divided, with hardly any style.

July 1.1808. Published by Jas. Sowerby London.

SALIX arenaria.

Downy Mountain Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina, *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves nearly entire, ovate, acute; reticulated and somewhat downy above; very woolly and veiny beneath.

SYN. Salix arenaria. *Linn. Sp. Pl.* 1447. *Fl. Lapp. ed.* 2. 298. *t.* 8. *f.* o, q. *Sm. Fl. Brit.* 1058. *Galp. Comp.* 83.

S. lapponum. *Lightf.* 604. *Huds.* 651. *With.* 51. *Hull.* 218.

S. n. 20. *Gmel. Sib. v.* 1, 164. *t.* 36. *f.* 1. *Herb. Linn.*

S. helvetica. *Villars Dauph. v.* 3. 783, but not Haller's *t.* 14.

DISCOVERED on the mountains of Breadalbane by the Rev. Dr. Stuart, who communicated it to Mr. Lightfoot. The latter, taking it for the *lapponum* of Linnæus, compiled a description from *Fl. Lapp.* which does not apply to the present plant. The original cause of this confusion was Gmelin, who assured Linnæus that the figure of Dillenius in Ray's *Synopsis, t.* 19. *f.* 3, was the Linnæan *S. arenaria;* how erroneously, may be seen by turning to our *argenteu, t.* 1364, which is Dillenius's plant. Villars mistakes the *arenaria* for Haller's *t.* 14, which is *glauca;* see *t.* 1810.

S. arenaria is a stout, branched, bushy shrub, 2 or 3 feet high, flowering in May, with reddish-brown, slightly downy, twigs. The down is cottony and depressed. Leaves but little spreading, ovate, acute, entire or slightly waved, somewhat revolute; dark green, reticulated with sunk veins, and clothed with thin cottony down above; very white and woolly, with prominent veins, beneath. Stipulas none. Footstalks broad at the base, not decurrent. Flowering buds very large, gibbous. Catkins ovate, soon becoming cylindrical, hairy. Stamens smooth. Capsules (from exotic specimens) woolly, nearly sessile. Style long, slender, with slender, deeply cloven, stigmas.—Dr. Stuart's male plant with narrower leaves, described in *Fl. Brit.*, is a remarkable variety, if not a distinct species, approaching to the true *S. lapponum.*

Nov. 1. 1807. Publish'd. by Ja.s Sowerby, London.

SALIX glauca.

Glaucous Mountain Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves nearly entire, elliptic-lanceolate; even and nearly smooth above; woolly beneath. Footstalks decurrent.

SYN. Salix glauca. *Linn. Sp. Pl.* 1446. *Fl. Lapp. ed.* 2. 299. *t.* 8. *f.* p. and *t.* 7. *f.* 5: but not *sericea* of Villars.

S. n. 1642. *Hall. Hist. v.* 2. 307. *t.* 14.

MR. CROWE received this Willow from the Highlands of Scotland by favour of Mr. Dickson. We find in Mr. Davall's herbarium abundant Swiss specimens, which prove it the plant figured in Haller, and the herbarium of Linnæus shows it to be his *glauca*. We learn also from Mr. Davall's collection that Haller's *n.* 1643 is the *sericea* of Villars, and the *lapponum* of Linnæus, a species not yet ascertained as a native of Britain.

S. glauca is new to our *Flora*, and not well known to botanists in general. It has passed among us for a variety of *t.* 1809, but Mr. Crowe was aware of its difference, though I have only since his death settled the above synonyms and specific character. It is about the size of *S. arenaria*, but the elliptical, narrower, smooth and even leaves, peculiarly white, (when young beautifully satiny,) with less prominent veins, beneath, and the more decurrent footstalks, evidently distinguish it; to which may be added that the stigmas are shorter and thicker, and that we have occasionally noticed convex rounded stipulas, not observed in the other. It blossoms in May, rather after *S. arenaria*.

Nov. 1. 1807. Published by Ja.t Sowerby London.

SALIX Stuartiana.

Shaggy Mountain Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves nearly entire, lanceolate, acute; shaggy above; densely silky beneath. Stigmas capillary, deeply divided. Style as long as the germen.

SYN. Salix arenaria masculina. *Sm. Fl. Brit.* 1059. *Engl. Bot. v.* 26. 1809.

THE Rev. Dr. Stuart, to whose name we dedicate this Willow, first gave us a specimen of it, in August 1782, from his garden at Luss, as the male plant of Lightfoot's *S. lapponum,* which is the Linnæan *arenaria,* see *t.* 1809. He found it in Breadalbane, where Mr. W. Borrer has since gathered our wild specimen, near the upper end of the Finlarig burn.

Its natural height is two or three feet, but twice as much in a garden. The branches are numerous, and of a dark brown. Leaves smaller than in either *arenaria* or true *lapponum,* lanceolate, sometimes slightly obovate; their upper surface even, clothed with soft, shaggy, cottony down; the under with long, dense, silky hairs. The edge is sometimes slightly wavy. Flower-buds large. Catkins shortish, ovate, with much larger bracteas on their stalks than in *arenaria.* Germen nearly sessile, woolly. Style capillary, about as long as the germen. Stigmas each divided to the base, capillary. The male catkin is very woolly, and short. We believe the exotic capsules, &c., described as *arenaria* in *p.* 1809, rather belong to *S. Stuartiana.*

Linnæus confounded this plant with his *lapponum;* but the authentic specimen of the latter has larger, more wavy leaves, densely cottony beneath, long catkins, a short style, and thick stigmas.

2586.

Feb. 1814 published by Jas. Sowerby London

V

SALIX argentea.

Silky Sand Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves entire, elliptical, somewhat revolute, with a recurved point; rather downy above; silky and shining beneath, as well as the branches.

SYN. Salix argentea. *Sm. Fl. Brit.* 1059.
S. repens γ. *Huds.* 429.
S. fusca. *With.* 51. *Hull.* 219.
S. arenaria. *Lightf.* 604.
S. pumila, foliis utrinque candicantibus et lanuginosis. *Dill. in Raii Syn.* 447. *t.* 19. *f.* 3.

A NATIVE of loose blowing sandy ground on the sea-shore in various parts of England, Scotland and Wales, where its silvery brilliancy renders it conspicuous, and where it flowers abundantly in May.

It varies in size and luxuriance. The branches are long, and more or less spreading, or nearly prostrate; the young ones angular and silky. Leaves on shortish stalks, elliptical, broad, about an inch long, always perfectly entire, somewhat revolute, terminating in a bluntish recurved point: their upper side green, veiny and smooth when fully grown; the under covered with beautiful silvery close-pressed hairs. Stipulæ variable in size, ovate, flat, entire, silky. Catkins cylindrical, obtuse, at first sessile. Scales linear, inclining to obovate, obtuse or notched, hairy. Stamina yellow, smooth. Capsules on very long stalks, ovato-lanceolate, silky. Style short. Stigmas at length cloven. By age the capsules become smooth.

Linnæus having referred the above synonym of Dillenius to his *S. arenaria*, has led all his copiers widely astray.

Oct. 1. 1804. Published by Jas. Sowerby, London.

SALIX prostrata.

Prostrate Dwarf Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves elliptical, acute, convex, rarely toothed; glaucous, rugged and silky beneath. Stem prostrate. Branches elongated, straight.

SYN. Salix prostrata. *Sm. Fl. Brit.* 1060. *Galpine*, 83. S. polymorpha. *Ehrh. Arb.* 49?

MR. CROWE received this little Willow many years ago from Mr. Dickson, who found it in Scotland. It has ever since preserved its original habit in the garden. Mr. E. Forster has gathered what we find to be the same on Epping Forest, near High Beech, but neither Mr. Crowe nor any other person, to our knowledge, has found it in Norfolk. It agrees well with Ehrhart's own specimens of his *polymorpha*, but he seems to have confounded several species under that name. It will not agree with the Linnæan characters of *S. incubacea*, a species we have never been able to ascertain.

The stems form an entangled mat, most of the branches being very long, tough, straight and slender, spreading very widely, close to the ground, in all directions, while some few short ones stand erect. All are leafy, round, finely downy when young. Leaves scattered, on shortish thick stalks, elliptical or elliptic-lanceolate, scarcely an inch long, acute, somewhat recurved, mostly entire, but here and there furnished with one or two conspicuous teeth; above dark and opaque, minutely downy, veiny, convex; beneath concave, hardly revolute, glaucous, rugged with veins, and somewhat silky. Stipulas rare and small, or merely little glands. Sometimes the scales of the axillary buds look like stipulas. Catkins produced in May, not earlier, ovate, obtuse, dense, silky. Scales with a blunt brown tip. Germen ovate, silky, somewhat stalked. Style short and thick. Stigmas cloven.

Dec.r 1808. Published by Ja.s Sowerby, London.

SALIX fusca.

Brownish Dwarf Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves elliptic-oblong, acute, straight, flat, with a few glandular teeth; glaucous and silky beneath. Footstalks slender. Stem erect, much branched. Stipulas none.

SYN. Salix fusca. *Linn. Sp. Pl.* 1447. *Fl. Lapp. ed.* 2. 299. *t.* 8. *f.* r. *Fl. Suec. ed.* 2. 351. *Sm. Fl. Brit.* 1060. *Galpine*, 83.

NOT rare on moist mountainous heaths in the north, flowering in May.

The stem forms an upright bushy shrub, about a foot high, very much branched, not creeping, as far as we can observe from cultivating it for many years, though Linnæus says otherwise. Branches round, downy when young, thickly clothed with leaves. Buds large, ovate, red and shining. Leaves on longish slender footstalks, always we believe without stipulas, scarcely an inch long, elliptic-oblong, sharpish, almost perfectly flat and straight, not revolute, their margin not cut nor serrated, but beset with distant glandular teeth, most conspicuous in the older ones; dark green and smoothish above; glaucous and silky, with minute veins, beneath. In drying they turn black or brown. Catkins ovate, short and dense, with brown hairy obtuse scales. Anthers red before they burst. Nectary ovate, brown. The scales of the female catkins, sent for the same species by Dr. Stuart, and described in *Fl. Brit.*, are so different as to cause a doubt of their identity. We are certain of the distinctness of this species, though, possibly, Linnæus may have confounded some others with it which we shall describe hereafter, and which led him to describe the stem as creeping. We believe moreover that *S. repens*, *t.* 183, is best distinguished from *fusca* by its creeping stem, the leaves being not always entire.

1960

Dec.1,1808. Published by Jas. Sowerby, London

36.

SALIX parvifolia.

Small-leaved Dwarf Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves elliptical, nearly entire, with recurved points; glaucous and silky beneath. Stem decumbent. Stipulas ovate, entire.

GATHERED by the late Mr. Crowe at East Winch and Wrongay fen, Norfolk. After having been cultivated in his garden for several years along with *S. repens*, *fusca*, *prostrata* and *adscendens* hereafter described, it has constantly preserved its habit and characters, and cannot be confounded with any other willow.

It flowers at the end of April or early in May. The stem is much branched, entangled and decumbent. Branches elongated, wand-like, a foot or 18 inches long, spreading obliquely or else procumbent, very densely clothed with innumerable leaves, round, thickish, and hairy or silky. Leaves spreading or recurved, about half an inch long, of a broad elliptical figure, with recurved points; the margin slightly revolute, either quite entire, or marked here and there with a minute glandular tooth. The upper surface is of a dull lightish green and nearly smooth; the under glaucous and more or less silky. Footstalks very broad and short. Buds large, ovate, silky. Stipulas usually present, but small, ovate, entire, hairy, tipped with a red gland. Female catkins ovate, dense, yellowish. Scales obovate, brown, hairy. Germen stalked, silky, at length becoming nearly smooth. Style short, thick. Stigmas deeply divided, thick, blunt.

Living specimens of this plant, shut up for 2 or 3 days in a tin box, diffuse when opened an intolerably fetid fish-like scent, which we have observed in no other willow except *adscendens*.

Dec.1.1808. Published by Jas. Sowerby London.

V

37.

SALIX adscendens.

Ascending Dwarf Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves elliptic-oblong, somewhat serrated, with recurved points; glaucous and silky beneath. Stem ascending. Stipulas ovate, serrated.

OBSERVED by Mr. Crowe and Mr. E. Forster upon Porland heath, Norfolk. We have noticed it in several moist heathy or sandy places, but long supposed it a variety of *S. argentea, t.* 1364, from which, having cultivated and examined it for a number of years, we now find it widely and unquestionably distinct. That species when left to itself, always forms an upright bush, and is remarkable for its brilliant silvery leaves, which are always entire. The present is a creeping low shrub, with long straight obliquely ascending branches, and much less silvery leaves even on their under side. The leaves are also much more oblong, and many of them decidedly serrated. It is most akin to our *S. parvifolia,* and has the same smell, but is about twice as large, with less crowded recurved leaves, and with serrated stipulas. It flowers with that species in May, 2 or 3 weeks later than the *repens.* The female catkins and capsules agree with those of *parvifolia.* We do not find such marks of discrimination in the parts of fructification in this tribe of Willows as in the larger kinds, nor have we had opportunities of verifying their species by raising them from seed. *S. caprea, aquatica, oleifolia, hirta, cotinifolia,* &c., as well as *purpurea, Helix,* &c., have grown from seed in Mr. Crowe's garden, and prove as permanent in habit and characters as any plants in the world.

Dec. 1. 1808. Published by Jas. Sowerby, London.

SALIX repens.

Creeping dwarf Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the ſcales of a catkin. *Cor.* none. *Nectary*, a gland at the baſe of the ſtamina. Female, *Cal.* like the male. *Cor.* none. *Style* cloven. *Capſ.* of one cell, with two valves. *Seeds* downy.

SPEC. CHAR. Leaves entire, lanceolate, ſomewhat downy on both ſides. Stem decumbent and creeping. Style ſimple; ſtigma in 4 nearly equal ſegments. Capſules ſmooth.

SYN. Salix repens. *Linn. Sp. Pl.* 1447. *Hudſ. Fl. An.* 428. *With. Bot. Arr.* 1105. *Relh. Cant.* 366. S. pumila anguſtifolia, infernè lanuginoſa, and S. pumila anguſtifolia pronâ parte cinerea. *Raii Syn.* 447. Alſo S. alpina pumila, rotundifolia repens, infernè ſubcinerea. *Ibid.* 448.

EVERY moiſt ſandy heath abounds with this willow, which flowers in May, and ripens its fruit in June and July, when, as in moſt of this genus, the leaves arrive at their full ſize. The varieties of S. repens are numerous, differing in the breadth of their leaves, and in the greener or browner colour of the whole plant; hence Hudſon and others have thought they had diſcovered S. fuſca and S. roſmarinifolia among them; whereas the former is S. arenaria of our Britiſh writers (not of Linnæus), and the latter we have never ſeen of Britiſh growth. Profeſſor Gouan of Montpellier miſtook a widely different and non-deſcript ſpecies for S. repens of Linnæus.

The real one here figured has a very ſtrong woody root, dark, brown or black, throwing out many proſtrate or widely ſpreading ſtems, of which the flowering branches are generally erect. The leaves are lanceolate or elliptical, ſilky when young, and ſeldom quite ſmooth beneath when old; without ſtipulæ. Catkins not long; ſcales obtuſe, hairy. Germen oval, ſilky, with a ſhort undivided ſtyle, and a yellow ſpreading ſtigma, cloven almoſt equally into 4 lobes. Ripe capſule, ſmooth, lanceolate. The ſtyle and ſtigma muſt be particularly noticed in diſcriminating ſome of theſe ſmall willows; indeed we ſtand in need of every help in ſo difficult a tribe.

39.

SALIX rosmarinifolia.

Rosemary-leaved Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves entire, linear-lanceolate, straight; silky beneath. Stem erect. Stipulæ upright, flat. Catkins recurved.

SYN. Salix rosmarinifolia. *Linn. Sp. Pl.* 1448. *Sm. Fl. Brit.* 1062. *With.* 52. *Hull.* 219. *Ehrh. Arb.* 119.

S. repens ε. *Huds.* 429.

S. pumila, rhamni secundi Clusii folio. *Dill. in Raii Syn.* 447.

THIS is found in moist sandy places in several parts of Great Britain, especially in the north. Mr. Crowe received it from Mr. Dickson. It flowers in April.

The shrub is erect, about three feet high, divided into very numerous, upright, round, slender, leafy branches, silky when young. Leaves on short slender stalks, nearly upright, straight, an inch and half or more in length, linear-lanceolate, acute, entire, though sometimes a little glandular at the edge; downy above when young, but becoming smooth and dark green with age; silky and glaucous at all times underneath. Stipulæ generally very upright, flat, lanceolate, rarely divided. Catkins lateral, nearly sessile, ovate, very short, most remarkable for being always recurved. Scales elliptical, small, black, hairy. Germen on a longish stalk, ovato-lanceolate, silky. Stigmas dark purple, almost black, ovate, at length cloven, with a shortish style.

Oct.r 1. 1804. Published by Ja.s Sowerby, London.

V

40.

SALIX cinerea.

Grey Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves slightly serrated, obovato-lanceolate; underneath reticulated with veins, glaucous, downy. Stipulas half-heartshaped, serrated.

SYN. Salix cinerea. *Linn. Sp. Pl.* 1449. *Fl. Suec. ed.* 2. 353. *Fl. Lapp. ed.* 2. 296, without Villars's synonym. *Sm. Fl. Brit.* 1063.

S. daphnoides. *Villars Dauph. v.* 3. 765. *t.* 50. *f.* 7; bad.

I BELIEVE this Willow may not be very uncommon, but it is one of the most difficult to determine. I know not from what part of Norfolk Mr. Crowe brought the very plant whence our specimens were taken, and which we have studied together several years, at various seasons, and determined to be the true Linnæan *cinerea*, as well as a distinct species. It flowers after the middle of April. Our leaves were gathered at the end of June.

This is a small crooked and apparently useless tree. It is allied on the one hand to *S. oleifolia, t.* 1402, but the flower-buds and catkins are not so large, nor the stipulas vaulted nor rounded; and on the other to *S. aquatica, t.* 1437, with some of whose various forms it is most likely to be confounded. The leaves however are always more lanceolate, more thick and downy, not thin and pliable. The stipulas as far as we have observed are always half-heartshaped. The catkins are rather larger than in *aquatica*, of which our *t.* 1437 shows the extreme size. The earlier or lower leaves in both these species, but especially *cinerea*, are sometimes many of them quite entire. We have seen only the male plant.

June 1808. Published by Jas. Sowerby London.

41.

SALIX aurita.

Round-eared, or Trailing Sallow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves somewhat serrated, obovate, obtuse, with a small hooked point: hairy and reticulated with veins on both sides. Stipulas various.

SYN. Salix aurita. *Linn. Sp. Pl.* 1446. *Fl. Lapp. ed.* 2. 303. *t.* 8. *f.* y. *Sm. Fl. Brit.* 1064 *With.* 50. *Hull.* 218. *Sibth.* 17. *Abbot.* 212. *Hoffm. Sal. t.* 22. *f.* 1.

S. caprea δ. *Huds.* 430.

S. folio rotundo minore. *Dill. in Raii Syn.* 450.

β. S. caprea pumila, folio subrotundo subtùs incano. *Dill. in Raii Syn.* 450.

THIS, the smallest of the tribe called Sallows, is not so general a species as *S. aquatica, t.* 1437, and yet is found abundantly in rather moist upland woods, and more especially in the thickets or hedges of mountainous countries. In Shropshire and Wales it abounds, and is covered with its little catkins in April or May, while the leaves are just budding.

It varies in height, but is generally in all its parts about half the size of the Water Sallow. The branches shoot horizontally among other bushes to a great extent, whence the Norfolk name of Trailing Sallow. (*Mr. Crowe.*) The leaves vary much in size, but are known by their great ruggedness, their obovate, often obtuse, form, and their hooked point. They are very hairy. The stipulas are roundish, very variable also in size. Catkins on lateral branches, scarcely half so large as those of *S. aquatica*, but like them in the structure of their parts. Male flowers lemon-coloured. Capsules downy, on longish stalks.

Aug.t 1. 1805. Published by Jo.s Sowerby, London.

42.

SALIX aquatica.

Water Sallow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves slightly serrated, obovate-elliptical, downy, flat; rather glaucous beneath. Stipulæ rounded, toothed.

SYN. Salix aquatica. *Sm. Fl. Brit.* 1065.
S. caprea α. *Huds.* 429.
S. cinerea. *With.* 54. *Hull.* 219. *Relh.* 387.
S. aurita. *Hoffm. Sal. t. 5. f.* 3.
S. folio ex rotunditate acuminato. *Raii Syn.* 449.

"PERHAPS," as Dr. Withering remarks, "this is the most common of all our Willows, as well in hedge rows as in woods." It is not however the *cinerea*, though very near it. Their differences we hope one day to be furnished with full materials to explain, having the *cinerea* now in a growing state; still less could this be confounded with *S. caprea*, except in a very early stage of our knowledge of the subject.

S. aquatica is much smaller in all its parts than *caprea*, and as the latter naturally prefers a dry soil, the former is mostly found in wet places, in a bushy form, over hanging ponds, and covering swamps. Either species will indeed grow almost any where by culture. It bears catkins in April, which are cylindrical, with small brown-tipped hairy scales, and an oblong nectary, to each. Capsules tapering, downy, on longish stalks. Stigmas entire. Style very short. The leaves vary in shape and size, but are more or less obovate, downy and veiny; thin, soft and pliable, flat and not crisped or waved, in which latter particulars they differ greatly from those of *S. cinerea* and *aurita*.

April 1 1805. Published by Jas. Sowerby, London.

SALIX oleifolia.
Olive-leaved Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves obovato-lanceolate, flat, minutely indented, acute; underneath glaucous and hairy. Stipulæ small, notched.

SYN. Salix oleifolia. *Sm. Fl. Brit.* 1065.

OUR first knowledge of this Willow was derived from plants sent by Mr. Dickson; but it proves to be not uncommon in hedges and coppices in various parts of Norfolk, and is most unquestionably a well-defined species. It produces catkins in March, being one of the earliest of our native Willows; and those catkins are larger than in any other wild species, except *S. caprea* with which they nearly accord. The leaves however are totally different from those of *caprea*.

S. oleifolia rises from 4 to 8 or 10 feet in height, with straight, slender, divaricating branches, clothed with very fine short down. Leaves a little spreading, straight and somewhat rigid, tapering from the middle to the base, broader upward, acute but not pointed, slightly serrated, or oftener toothed, throughout; green, flat, and finely downy above; glaucous, with numerous, prominent, hairy, reticulated veins, beneath, where they generally assume more or less of a rusty hue. Footstalks of a moderate length, downy. Stipulæ varying in size, but never large; roundish, sometimes cloven and notched, and when not very small they are reflexed or vaulted. Flower-buds very large, downy, brown. Male catkins shortish, very thick, with an obovate, brown, hairy scale, a blunt nectary, and 2 distinct, long, conspicuous, golden stamina, to each flower. The female we have not examined.

Jan.y 1. 1805 Published by Jas. Sowerby, London.

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444.

[2342]

SALIX rupestris.

Silky Rock Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves obovate, serrated, flat, even, silky on both sides. Stipulas hairy. Branches minutely downy. Germen stalked, awlshaped, silky. Stigmas undivided.

SYN. Salix rupestris. *Donn. Cant. ed.* 5. 231.

WE have this from Mr. G. Anderson under the above name, flowering in April. Mr. W. Borrer gathered the same on the rocks of Craig Challoch and Mael Ghyrdy in the Highlands. It is doubtless very distinct from all we have hitherto published, but we have no means of being certain that it is not included under some name in Willdenow's *Sp. Pl.* having had only an occasional inspection of the volume containing his *Salices.*

S. rupestris is a trailing or depressed shrub; the branches very finely downy, of a dark hue. Leaves about an inch long, obovate, acute, broadish, even and flat, not wrinkled, finely and regularly serrated, veiny, silky on both sides. The scales or small leaves of the flowering buds are very smooth above. Stipulas small, ovate, hairy. Catkins ovate and thick, their scales very hairy; the female ones soon elongated and cylindrical. The germen, which is stalked, hairy, and at first rather ovate, becomes lengthened and awlshaped. Style prominent, smooth. Stigmas ovate, scarcely notched, never deeply cloven.

Now, 1 1811 published by Jas. Sowerby London.

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45.

SALIX Andersoniana.

Green Mountain Sallow.

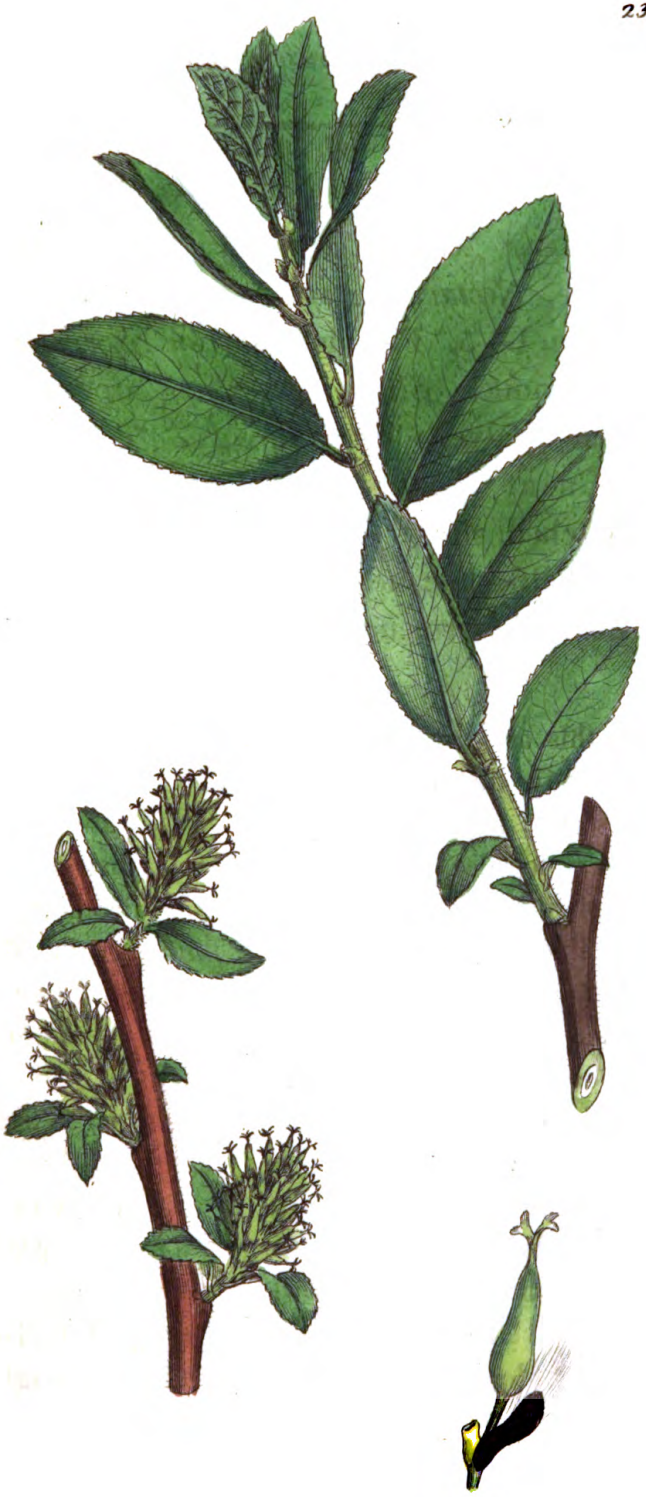
DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves elliptic-oblong, acute, finely notched, slightly downy; paler beneath. Stipulas half-ovate, nearly smooth. Branches minutely downy. Germen stalked, smooth. Stigmas cloven.

FOR this also we are obliged to Mr. Anderson, by whose name we have distinguished the species. The Rev. Dr. Walker, it seems, used to call it *S. dalbensis*, but that appellation is contrary to rule, and has never been published.

The plant is found in various parts of Scotland, forming a considerable bush or small tree; flowering in May. The branches, green the first year, are afterwards of a sooty brown; at all times clothed with a dense, extremely short, curved down. Leaves on shortish downy stalks, nearly elliptical, an inch or inch and half long, acute, flat, finely crenate rather than serrated, of a bright pleasant green; paler beneath, more or less downy on both sides, especially the rib and veins, with minute hairs. Stipulas small, half-ovate, toothed, slightly downy, at length vaulted. Female catkins short, ovate, with black hairy scales. Their stalk is very hairy, and the floral leaves are almost as long as the catkin. Germen on a longish smooth stalk, ovate, taper-pointed, round, quite smooth and naked. Style awlshaped. Stigmas deeply cloven. Even the catkin of ripe seed is not above an inch long.



Nov. 1811 published by Jas. Sowerby London.

46.

SALIX Forsteriana.

Glaucous Mountain Sallow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. *Female, Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves elliptic-obovate, acute, notched, slightly downy; glaucous beneath. Stipulas vaulted. Branches minutely downy. Germen stalked, silky. Stigmas undivided.

MR. T. F. FORSTER, F.L.S., long ago supplied us with specimens and living plants of this willow, originally obtained from Scotland, where it is far from rare; but bearing considerable resemblance to some others, it has never been described. It flowers in May.

This is a larger shrub than our *S. Andersoniana*, and though akin to that species, differs in the greater size and firmness of its adult leaves, their darker more shining upper, and glaucous under, side. Their pubescence is very slight indeed, except on the midrib and footstalks, where it is dense, though extremely short. Stipulas vaulted, toothed, rather hairy. Female catkins an inch long when in blossom, afterwards twice as much, but their floral leaves do not exceed those of *S. Andersoniana*. Germen ovate, taper-pointed, silky, on a hairy stalk. Style shortish, smooth. Stigmas thick, undivided. This species, sufficiently distinguished by the above characters from *t.* 2343, approaches on the other hand to *S. hirta*, *t.* 1404, turning, like that, black in drying; but the *hirta* is a tree, vastly more hairy, with larger, flat, quite smooth stipulas; its leaves heart-shaped at the base. We know nothing of its female catkins.

Nov. 1. 1810 published by Jas. Sowerby London.

47.

SALIX cotinifolia.

Quince-leaved Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves elliptical, almost circular, slightly toothed; downy, and marked with rectangular veins beneath. Stigmas cloven.

SYN. Salix cotinifolia. *Sm. Fl. Brit.* 1066.

SENT by Mr. Dickson from the north; but Mr. Crowe has found it in Norfolk of a larger growth, being 6 or 8 feet high. It flowers in April, and is very remarkable for its round leaves, much resembling those of a Quince tree.

The branches are spreading, clothed with fine but not thick-set down. Leaves spreading, thick and firm, on thick hairy stalks, of a very broad elliptical figure, often truly orbicular, with a little point, flat, slightly though regularly toothed; above of a dull green, clothed with little flat scattered hairs; beneath pale or glaucous, downy or hairy, their principal veins spreading at right angles from the mid-rib, nearly parallel to each other, their branches reticulated, all pale, not rusty. Stipulæ small, rounded. Female catkins, the only kind we have seen, about half an inch long when in blossom, ovate, with blunt, short, black, hairy scales. Nectary short, obtuse. Germen on a short stalk, lanceolate or somewhat ovate, downy, with a considerable style, and a pair of spreading cloven obtuse stigmas. Capsules lanceolate, downy.

In drying, the leaves are very apt to turn black; which is not the case with the preceding.

Jan.y 1. 1805. Published by Ja.s Sowerby, London.

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48.

SALIX hirta.

Hairy-branched Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves elliptic-heartshaped, pointed, finely notched, downy on both sides. Stipulæ half heart-shaped, flat, toothed, nearly smooth. Branches hairy.

MR. CROWE has discovered this Willow in Norfolk some time since, but, as is the case with some others, we were not sufficiently acquainted with its distinctive marks to admit it into the *Flora Britannica*. On further examination however it appears to be distinct. It flowers in April or early in May, and is most allied to the species described in our two last pages, but the following marks will serve to discriminate it.

In height it is a small tree. The branches are thick, and most remarkably hairy with very close prominent horizontal hairs. Leaves 2 inches long, of a broad elliptical figure, heart-shaped at their base, and ending in a sharp point; their edges furnished with shallow notches rather than teeth or serratures; their upper side dullish green; the under pale or glaucous, finely veined; both clothed with fine short pubescence. Footstalks longish, very hairy. Stipulæ nearly smooth, flat, half heart-shaped, acute, minutely toothed. Male catkins cylindrical, rather slender. Scales somewhat acute, brown, hairy. Nectary blunt and papillary. Stamina yellow, long.

The leaves in drying are still more inclined to turn black than those of the last.

Jan.y 1. 1805. Published by Jas. Sowerby. London.

49.

SALIX sphacelata.

Withered-pointed Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* & *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves entire, elliptical, even; downy on both sides; somewhat withered at the point. Stipulas obsolete. Capsules tapering.

SYN. Salix sphacelata. *Sm. Fl. Brit.* 1066. *Hull. ed.* 2. 295.

S. lanata. *Lightf.* 602. *With.* 50.

S. capreæ varietas. *Hoffm. Sal. v.* 1. 28. *t.* 5. *f.* 4 *t.* 21. *f.* d.

AN inspection of Lightfoot's herbarium, in the hands of Her Majesty at Frogmore, enabled us accurately to determine all his *Salices*, by comparison with those of the Linnæan collection, taken thither on purpose. The present proved to be Lightfoot's *lanata*, though essentially different from that of Linnæus. The Rev. Dr. Stuart gathered it in a valley near Finlarig, at the head of Loch Tay, flowering in April and May. We have not met with it in any garden, and Mr. Sowerby unluckily is not certain how he came by the specimens in the plate. By Hoffmann it should seem no very uncommon plant, and perhaps may not be confined to alpine situations, having been overlooked as a variety of *S. caprea*, *t.* 1488. From that species nevertheless it essentially differs. It is less arboreous. The leaves are but an inch and half, or thereabouts, in length, quite entire; their substance rather thin and delicate; their surface even, not rugose; their points often remarkably withered or blasted, as it were, but this is scarcely seen in a young state. Both sides are downy, the upper in time becoming smooth, at least towards the point. Stipulas small or none. Catkins cylindrical, not tumid. Germens on long stalks, regularly tapering upward, at length nearly smooth. Stigmas nearly sessile, undivided, or only notched, not deeply cloven.

Oct. 1, 1811, published by Jas. Sowerby, London.

V

50.

SALIX caprea.

Great Round-leaved Sallow.

DIOECIA Diandria.

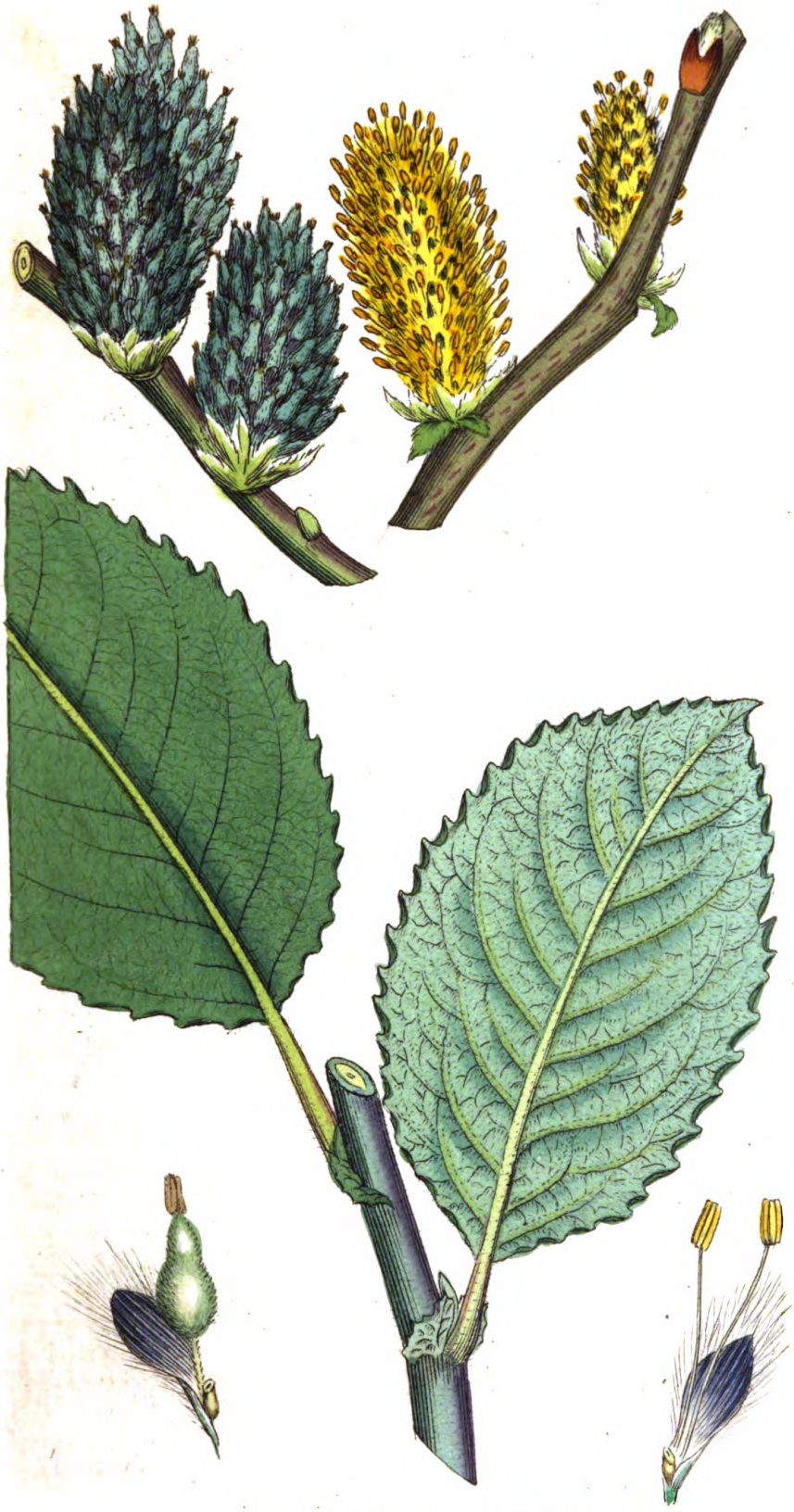
GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves ovate, pointed, serrated, waved; downy beneath. Stipulas somewhat crescent-shaped. Capsules swelling.

SYN. Salix caprea. *Sm. Fl. Brit.* 1067. *Linn. Sp. Pl.* 1448, α. *Huds.* 429, γ. *With.* 53. *Hull.* 219. *Relh.* 386. *Sibth.* 17. *Abbot.* 212. *Hoffm. Sal. v.* 1. 25. *t.* 3. *f.* 1, 2. *t.* 21. *f.* a, b, c.
S. latifolia rotunda. *Raii Syn.* 449.

COMMON in hedges and thickets, but it prefers such situations as are rather dry than wet. Its copious yellow blossoms enliven the landscape in early spring, especially if they happen to have a back ground of gloomy firs. When they are fallen, the fresh shoots of the firs, as Linnæus says, "illuminate the woods" in their turn. The wood and branches of the Sallow are particularly useful for making hurdles. Its bark is bitter and astringent, and has lately been much recommended for the same purposes as the Peruvian *Cinchona*.

This is much larger in all its parts than *S. aquatica*, and grows to the size of a moderate tree. It is readily known by its large broad roundish leaves, which are waved at their edges, and clothed with a dense white cottony down beneath. The catkins are thicker and blunter than those of any other British species, except perhaps *oleifolia*. Their scales are brown and very hairy. Stamens yellow. Germen ovate, downy, on a long stalk. Capsule swelling at the base. The scales of the flower-buds are most beautifully silvery when they first expand.



Aug.t 1. 1805. Published by Jas. Sowerby, London.

SALIX acuminata.

Long-leaved Sallow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves lanceolate-oblong, pointed, waved, slightly toothed; downy beneath. Stipulæ kidney-shaped. Capsules ovate, tapering.

SYN. Salix acuminata. *Sm. Fl. Brit.* 1068. *Hoffm. Sal. v.* 1. 39. *t.* 6. *f.* 1, 2. *With.* 53. *Hull.* 219. *Sibth.* 17.

S. caprea acuto longoque folio. *Raii Syn.* 450.

THIS tree, which rises to a moderate height and produces catkins early in April, is by no means uncommon in woods and hedges, preferring rather a moister situation than the Common Sallow, *S. caprea,* of which it has been considered as a variety. Miller first described it for a distinct species by the above name, and Hoffmann has well illustrated it.

The branches are round, when young clothed with soft short down. Leaves on footstalks, about 3 inches long, lanceolate, acute, often dilated a little above the middle, the margin more or less waved and slightly toothed towards the point; the upper surface is smooth and green; the under finely and closely downy, with parallel curved veins, which are often reddish. Stipulæ half-ovate when young, but afterwards curved and kidney-shaped, toothed. Catkins ovate inclining to cylindrical, with ovate pointed hairy scales. Stamina 2, yellow. Capsule on a long stalk, ovate, tapering, downy, with a short style, and thick obtuse stigmas.

Nicholls. 1805. Published by Jos. Sowerby London.

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SALIX stipularis.

Auricled Osier.

DIOECIA Diandria.

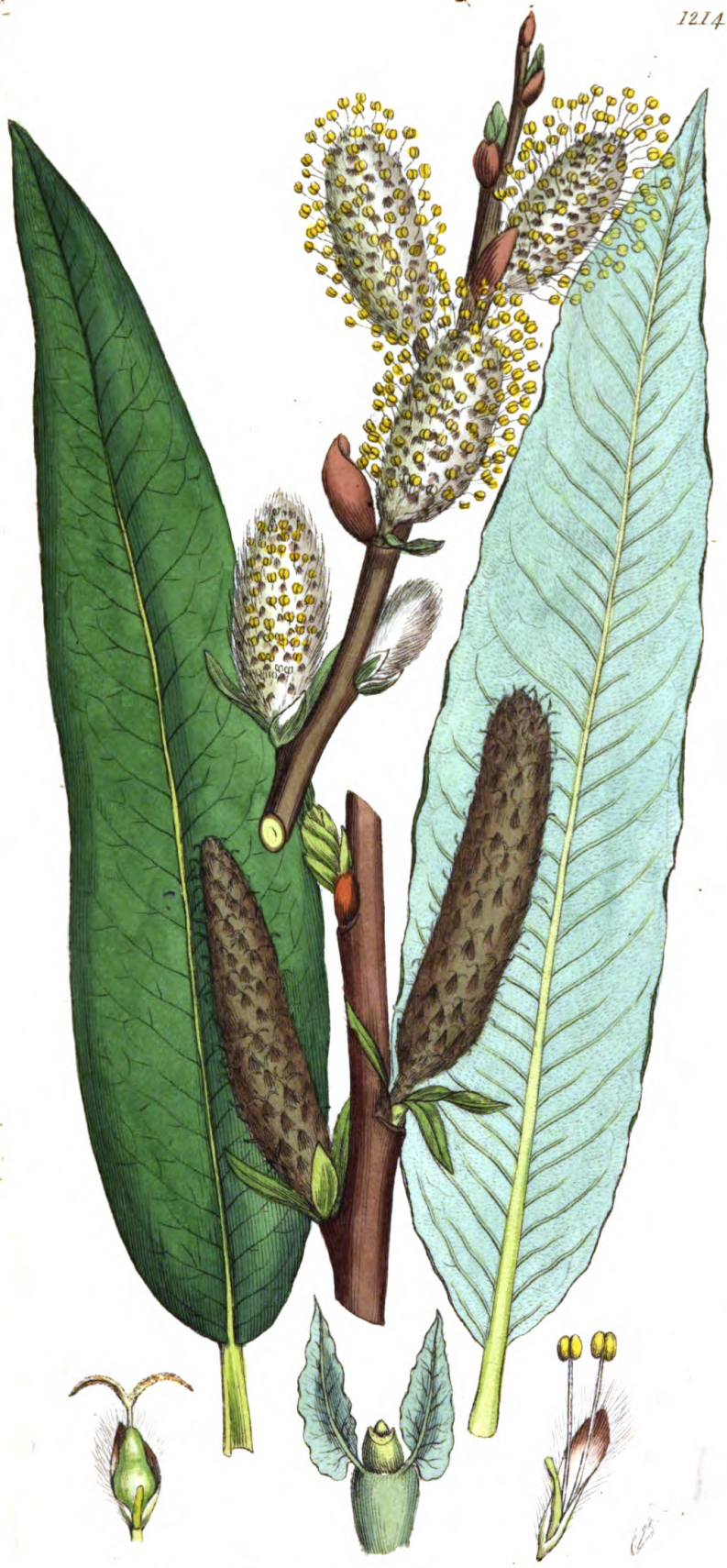
GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1---5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves lanceolate, pointed, obscurely crenate; downy beneath. Stipulæ half-cordate, very large. Nectary cylindrical.

THIS new species of *Salix* was noticed by Mr. Crowe in osier grounds near Bury. Mr. Sowerby has formerly received it for *S. viminalis*, with which, however different, we presume this has been confounded. Its merits as an Osier are however so small, as to render the distinction of the two species important in an œconomical view.

It blossoms in March, being perhaps the earliest of our British species. The branches are upright, long, round, and clothed with a short soft brownish down, like velvet. Leaves on shortish stalks, nearly erect, about 5 inches long, lanceolate, pointed, rounded at the base, unequally and slightly crenate; green and smooth above; beneath downy, with a pale rib and many parallel curved veins. Stipulæ on short stalks, half-heart-shaped, long-pointed, toothed or cut at the base, often larger than in our figure. Catkins large and thick, with obovate hairy scales. Stamina 2. Nectary long, cylindrical, obtuse. Germen on a short stalk, ovate, downy. Style a little elongated. Stigmas remarkably long, awl-shaped, recurved, undivided.

The large long stigmas, slender nectary, and conspicuous stipulæ, render it impossible to confound this species with any other at all resembling it. In structure of the fructification it most resembles *S. viminalis*.



Sept.r 1 1803. Published by Ja.s Sowerby London.

SALIX mollissima.
Silky-leaved Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves lanceolate, pointed, obsoletely crenate; whitish and silky beneath. Stipulæ crescent-shaped, minute. Stigmas deeply divided.

SYN. Salix mollissima. *Ehrh. Arb.* 79. *Sm. Fl. Brit.* 1070. *Hoffm. Fl. Germ.* 343. *Willden. Baumz.* 349.

DISCOVERED by Mr. Crowe in osier-grounds near Bury in Suffolk. We know not that it has been seen any where else in England, but our specimens exactly accord with those of Ehrhart, before we saw which we had fixed upon the same specific name as he has chosen. We have erred however in taking this for the true Velvet Osier, a valuable plant, much more allied to the Common Osier; nor is our *S. mollissima* of any economical use. We received the specimens with a wrong account annexed, a frequent case in the study of economical or medical plants.

The branches are erect, wand-like, round, reddish, smooth, except in a young state, when they are finely downy. Leaves alternate, on shortish downy stalks, lanceolate, pointed, slightly crenate, rounded at the base, thin and pliable; green and smooth above; silky, and very soft beneath, with a reddish nerve and curved veins. Stipulæ minute, curved, toothed, hairy. Female catkins lateral, sessile, ovate, small. Scales obovate, brown, very hairy. Germen on a shortish stalk, lanceolate, rounded at the base, silky. Style short. Stigmas linear, divided to the bottom.

Oct. 1. 1805. Published by Jas. Sowerby, London.

SALIX viminalis.
Common Osier.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves linear, inclining to lanceolate, very long, pointed, entire; silky beneath. Branches straight and slender. Style elongated. Stigmas undivided.

SYN. Salix viminalis. *Linn. Sp. Pl.* 1448. *Sm. Fl. Brit.* 1070. *Huds.* 430. *With.* 54. *Hull.* 219. *Relh.* 387. *Sibth.* 17. *Abbot.* 213. *Hoffm. Sal. v.* 1. 22. *t.* 2. *f.* 1, 2. *t.* 5. *f.* 2. *t.* 21. *f.* e, f, g. *Ehrh. Arb.* 69.

S. folio longissimo. *Raii Syn.* 450. *Cant.* 146.

THE Osier is one of the most common and best known of all the *Salices*, being so generally cultivated for the valuable produce of its wand-like tough and flexible branches. When allowed to grow, it forms a considerable tree, flowering late in April.

The branches are very long, straight, slender, round and silky. Leaves longer than in any other species, narrow, almost linear, acute, entire, revolute; smooth above; silky and shining beneath, with a strong rib. Stipulas linear-lanceolate, sometimes toothed, often wanting. Catkins from distinct buds, cylindrical, with brown, rounded, hairy scales. Nectary ovate. Stamens distinct. Capsule sessile, ovate, silky. Style about as long as the capsule. Stigmas acute, long, slender, undivided.

Much has been said about the Velvet Osier, as better than the common one. Mr. Crowe was first imposed upon with our *mollissima, t.* 1509, under that name, but it proved good for nothing. He then received one so exactly like the common kind that it seems at most not more than a variety. From this our male catkins are taken.

June 1, 1808. Publish'd by Ja.s Sowerby London.

✓

SALIX alba.

Common White Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of one cell and two valves. *Seeds* downy.

SPEC. CHAR. Leaves elliptic-lanceolate, acute, serrated, permanently silky on both sides; the lowest serratures glandular. Stigmas deeply cloven.

SYN. Salix alba. *Linn. Sp. Pl.* 1449. *Sm. Fl. Brit.* 1071. *Huds.* 430. *With.* 55. *Hull ed.* 2. 296. *Relh.* 387. *Sibth.* 18. *Abbot.* 213. *Hoffm. Sal. v.* 1. 41. *t.* 7, 8.

Salix. *Raii Syn.* 447. *Ger. em.* 1389.

ONE of the most general Willows on low wet commons, and in moist places about rivers and ditches, blossoming in May. It rises gradually to a tall tree, and has a thick bark, full of cracks, one of the best in the genus for tanning, and said also to partake of the virtues of Peruvian bark. The branches spread widely, drooping more or less, and the young ones are silky. The grey silvery hue of the leaves renders the tree remarkable; this is caused by close-pressed silky hairs, most abundant on the under side, and permanent on both. The shape of the leaves is lanceolate, rather dilated upwards, inclining to elliptic or obovate; the point acute, but not elongated; the margin regularly and acutely serrated, the lower serratures glandular. Stipulas either roundish or oblong, but small, and often wanting. Catkins terminating short lateral shoots; the male ones yellow, their scales, and base of the stamens, hairy, nectary double; females green, their germen ovato-lanceolate, nearly sessile, smooth; stigmas spreading, deeply cloven, with a short style.

July 1. 1812 published by Jas. Sowerby London.

√

SALIX cærulea.

Blue Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. Stigmas 2. *Caps.* superior, of one cell and two valves. *Seeds* downy.

SPEC. CHAR. Leaves lanceolate, taper-pointed, serrated; the under side at length almost naked; the lowest serratures glandular. Stigmas deeply cloven.

SYN. Salicis albæ varietas. *Sm. Fl. Brit.* 1072.

THIS Willow, mentioned in the *Fl. Brit.* as a variety of *S. alba*, is so remarkable and so valuable, that we venture to name it as a species, that it may be the more noticed. The male flowers, when known, may perhaps afford better characters than we have been able to obtain from the leaves. The late Mr. Crowe, who found the female plant wild in Suffolk, was of opinion that this might be taken for *S. alba* in many parts of England, the real one, *t.* 2430, not being known in some of the northern counties. He had for many years paid great attention to the cultivation of this tree, as have Mr. Rigby at Framingham, and Mr. Browne at Hetherset, Norfolk. A cutting planted by the latter became in ten years a tree thirty-five feet high, and five feet two inches in girth, having been blown down in 1800; which is a rapidity of growth beyond all comparison with that of the Common White Willow, and even exceeding *S. Russelliana*, *t.* 1808. The wood and bark are at least equal in quality to those of *alba*. The foliage is distinguished by its greater luxuriance, more blue hue, and the almost entire loss of the hairs from the under side of the adult leaves. Mr. Crowe thought the stipulas might afford distinctions, but we find them too variable.

July 1812 published by Jas. Sowerby London.

57.

EMPETRUM nigrum.

Black Crow or Crake-Berry.

DIOECIA Triandria.

GEN. CHAR. Male, *Cal.* in 3 divisions. *Petals* 3. *Stam.* capillary, 3 to 9. Female, *Cal.* and *Pet.* as in male. *Stigmas* 9. *Berry* with 9 seeds.

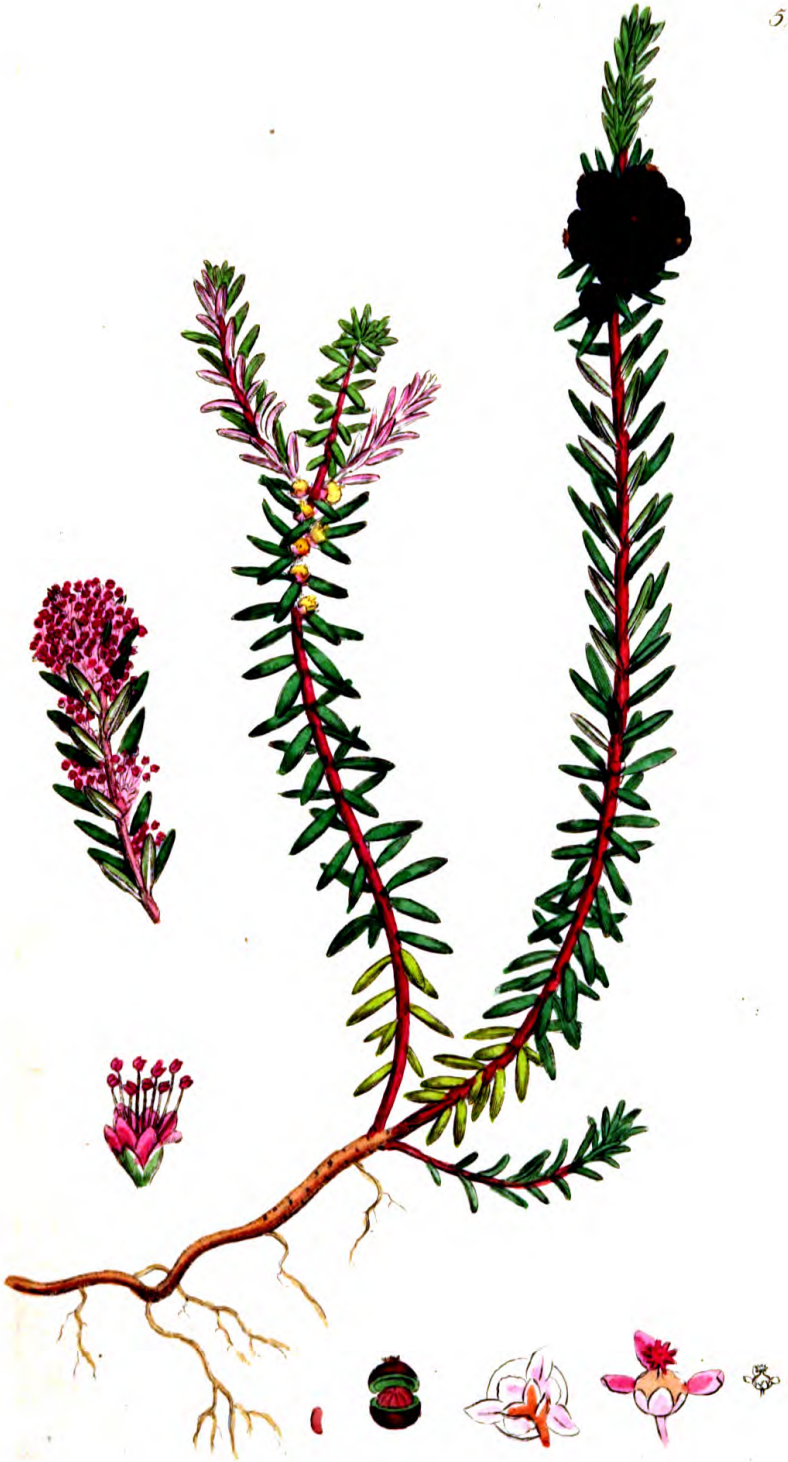
SPEC. CHAR. Plant procumbent.

SYN. Empetrum nigrum. *Linn. Sp. Pl.* 1450. *Hudſ.* 431. *With.* 176. *Dickſ. H. Sicc. faſc.* 2. 10.

E. montanum, fructu nigro. *Raii Syn.* 444.

A NATIVE of mountainous heaths in the northern counties, flowering in May, and ripening its berries in Auguſt. It clothes many a thouſand barren acres, either on a mooriſh or ſtony ſoil; and its fruit, which has a mild flavour of the elder-berry, affords ſuſtenance to ptarmigans, grouſe, partridges, and even to the hardy highlander himſelf. Linnæus in his *Flora Lapponica* informs us that too great a quantity of this fruit occaſions the head-ach, and alſo that the plant bears equally well the extremeſt cold of the north of Sweden and the ſulphureous ſmoke of the copper mines of that country, in which ſcarcely any other vegetable will grow.

The ſtem is ſhrubby, reddiſh, much branched, procumbent, the young branches only ſtanding upright. Leaves irregularly imbricated, ſpreading, on ſhort foot-ſtalks, oblong, blunt, flat on the upper ſide, their margins bent back ſo as to meet beneath, and theſe margins are ciliated, every other part being ſmooth. Flowers axillary, ſolitary, on ſhort ſtalks, with a few ſmall ſcaly bracteæ. Calyx of 3 roundiſh leaves. Petals moſtly 3, oblong, of a dull red. Stamina long and ſlender, 3 according to moſt authors, but Mr. Sowerby found 9, accompanied by an extraordinary number of petals, in ſpecimens ſent by Mr. Templeton from Ireland. Female flowers on a different plant, whoſe ſtem is of a brighter red. Their calyx and corolla like the male. Germen ſuperior, round. Style we think ſimple, with 9 ſtellate ſtigmas. Berry with 9 ſeeds, cloſely arranged in a globular form. Linnæus mentions having found a few hermaphrodite plants, which made him at firſt place this genus in the *Polygamia* claſs.



58.

RUSCUS aculeatus.

Butcher's Broom.

DIŒCIA Syngeneſia.

GEN. CHAR. Male. *Cal.* of 6 leaves. *Cor.* none. *Nectary* ovate, tubular, bearing the ſtamina. Female. *Cal. Cor.* and *Nect.* as in the male, but without ſtamina. *Style* 1. *Berry* 3-celled. *Seeds* in pairs.

SPEC. CHAR. Leaves ovate, ſharply pointed, flowering on the upper ſide without a leaflet. Branches ſtraight.

SYN. Ruſcus aculeatus. *Linn. Sp. Pl.* 1474. *Hudſ.* 437. *With.* 68. *Relh.* 374. *Sibth.* 22. *Smith in Linn. Tranſ. v.* 3. 334.

Ruſcus. *Raii Syn.* 262.

ALTHOUGH not very common, the Butcher's Broom is found on ſhrubby heaths and in thickets in ſo many parts of England, as to render the indication of any particular place ſuperfluous. It flowers in March and April, and the root is perennial. The plant itſelf is biennial, and for one winter evergreen. However rigid and firm in texture, it is truly herbaceous, dying down to the root after ripening its fruit. The whole plant is devoid of pubeſcence. Stems about 2 feet high, round, ſtriated, branched, ſtraight and rigid. Leaves alternate, ſpreading in every direction, twiſted, hard, ovate, entire, tipped with a ſharp thorn, bearing a ſolitary flower about the middle of their upper ſide, whoſe flower-ſtalk, as Mr. Woodward has well obſerved, runs down within the outer coat of the leaf to its baſe. Calyx of 6 green leaves, the intermediate ones ſmalleſt. Nectary purpliſh, tubular, ſwelling, bearing on its edge three combined antheræ, and encloſing the rudiments of an abortive germen. The female flowers grow on a ſeparate root, and have no antheræ. Germen elliptical, with a blunt nearly ſeſſile ſtigma. Berry globular, large, ſcarlet, with a ſweet pulp, encloſing one or two large, ſhining, globular, almoſt tranſparent ſeeds, for moſt of the rudiments of the ſeeds, originally ſix, prove abortive.

The root has been uſed medicinally to remove obſtructions of the liver principally; one certain uſe of the plant at leaſt is its removing all obſtructions from the unequal ſurface of a butcher's block, as expreſſed in the Engliſh name.

59.

VISCUM album.

Misseltoe.

DIOECIA Tetrandria.

GEN. CHAR. Male, *Cal.* none. *Petals* 4, dilated and cohering at their base, resembling a calyx. *Antheræ* sessile, attached to the petals.

Female, *Cal.* a slight border. *Pet.* 4, dilated at the base. *Style* none. *Berry* inferior, with 1 seed.

SPEC. CHAR. Leaves lanceolate, obtuse. Stem forked; with axillary heads of flowers.

SYN. Viscum album. *Linn. Sp. Pl.* 1451. *Sm. Fl. Brit.* 1074. *Huds.* 431. *With.* 203. *Hull.* 220. *Relh.* 388. *Sibth.* 63. *Abbot.* 214. *Mill. Illustr. t.* 87. *Woodv. Suppl. t.* 270.

Viscum. *Raii Syn.* 464.

FREQUENTLY to be observed on the branches of old apple-trees, hawthorns, lime-trees, oaks, &c., where it grows parasitically, forming large smooth pale-green tufts, most conspicuous in winter, when they assume a yellowish hue.

Stems divaricated, round, repeatedly forked. Leaves opposite, tongue-shaped, entire, rigid, smooth, permanent. Flowers in little axillary heads, male and female on separate plants, yellowish. Antheræ singularly punctate. Berry globose, white, semi-transparent, full of sweetish very viscid pulp, enclosing 1 seed. Of these berries bird-lime is made. The Misseltoe is celebrated in story as the sacred plant of the Druids, and the golden bough of Virgil, which was Æneas's passport to the infernal regions. From some relics of such antient superstitions it is used, along with holly boughs, to dress up churches and houses at Christmas. In polite life it is as obsolete as some better things, and left to the kitchen.

June 1. 1805. Published by Jas Sowerby, London.

60.

HIPPOPHAE rhamnoides.

Sallow-thorn, or Sea Buck-thorn.

DIOECIA Tetrandria.

GEN. CHAR. Male, *Calyx* in 2 deep segments. *Corolla* none. Female, *Cal.* tubular, cloven. *Style* 1. *Berry* superior. *Seed* solitary, doubly coated.

SPEC. CHAR. Leaves lanceolate.

SYN. Hippophae rhamnoides. *Linn. Sp. Pl.* 1452. *Huds. Fl. An.* 431. *With. Bot. Arr.* 1114. *ed.* 3. *v.* 2. 204. *Villars Dauph. v.* 2. 338.

Rhamnoides fructifera, foliis salicis, baccis leviter flavescentibus. *Raii Syn.* 445.

THIS shrub is found in various parts of England, on the sandy sea coast, chiefly upon cliffs or banks above the level of the ocean, flowering about the middle of May, and ripening its beautiful glowing berries in the autumn. Though the plant is often preserved in shrubberies, for the sake of its silvery leaves, it is never observed to bear fruit but in a wild state, which may perhaps be partly owing to its being diœcious, and the two sexes not happening to be cultivated together. Our specimens, in a very perfect state, were sent from Yarmouth by Mr. Wigg and Mr. Dawson Turner.

The wood is hard, and the branches of the preceding year terminate in stiff thorns. Leaves scattered, lanceolate, obtuse, entire, sometimes almost linear, of a silvery white beneath like the back of a looking-glass; both their surfaces, as well as the young bark and the fruit, are clothed with minute umbilicated scales, as in the genus *Eleagnus*. Flowers green, solitary in the bosoms of the lowermost leaves while they are very young, the males on one shrub, females on another, but both situated (as far as *we* have observed) in the same manner; they differ however in shape. The calyx of the male is divided almost to the base into 2 equal roundish lobes, closed together at their summit, but a little gaping below; stamina 4, very short, with large oblong antheræ. The female has an oblong tubular calyx slighty cloven at the top, containing a single germen, with a short thick recurved style. Berry somewhat elliptical, yellow or orange-coloured, very juicy, acid and astringent, containing in its centre an oblong shining black seed, with a furrow on each side, invested with a double membranous coat, first detected we believe by Mr. Sowerby, Gærtner describing only a single one. The berries are used as an acid sauce by the poorer people of Sweden and the South of France.

1797 Published by J. Sowerby London

MYRICA Gale.

Sweet Gale, or Dutch Myrtle.

DIŒCIA Tetrandria.

GEN. CHAR. Male. *Catkin* with concave ſcales. *Cor.* none. Female. *Catkin* with concave ſcales. *Cor.* none. *Styles* 2. *Berry* with 1 ſeed.

SPEC. CHAR. Leaves lanceolate, with ſhallow ſerratures. Stem ſhrubby.

SYN. Myrica Gale. *Linn. Sp. Pl.* 1453. *Hudſ.* 432. *With.* 208. *Relh.* 368. *Fl. Dan. t.* 327.

Gale frutex odoratus Septentrionalium, Elæagnus Cordo. *Raii Syn.* 443.

THIS delightfully fragrant ſhrub grows copiouſly in bogs on a gravelly ſoil, as at Woodbaſtwick, Norfolk, and at Derſingham in the north-eaſt corner of the ſame county, where our wild ſpecimens were gathered by the Rev. Mr. Sutton. We have received others gathered on Windleſham moor near Bagſhot, by the Rev. Mr. Abbot; and from Mr. Templeton of Belfaſt we have been favoured with monœcious ones, though in general the male catkins grow on different plants from the female ones. In March the catkins are fully formed; in May the flowers are in perfection; in Auguſt or September the branches are laden with ripe fruit, whoſe ſurface is ſprinkled with ſhining reſinous particles, eaſily rubbing off, and diffuſing a ſcent ſomething like red cedar. After the fruit has been kept dried 20 years it communicates to the fingers the ſmell of candied citron peel. In the north of Europe Linnæus tells us it is uſed for brewing inſtead of hops by poor people, and that wax may be obtained from it by boiling, as from M. *cerifera*.

This ſhrub grows to the height of 3 or 4 feet, and is much branched. Leaves deciduous, aromatic, alternate, lanceolate, tapering at the baſe, ſlightly ſerrated in the upper part, nearly ſmooth, paler beneath. Catkins lateral, alternate. We can ſcarcely call their ſcales, as Linnæus does, lunate; they are rather heartſhaped and pointed. Stamina 4, brown, as are alſo the ſtyles. Mr. Sowerby obſerved the firſt ſcales of the female catkin to be hairy towards the tip, by which they may be diſtinguiſhed even in the bud.

Polygonum. Drawn by J. Sowerby Junr.

HUMULUS Lupulus.
Hop.

DIOECIA Pentandria.

GEN. CHAR. Male, *Cal.* 5-leaved. *Cor.* none.
Female, *Catkin* of numerous obliquely spreading, undivided scales. *Cor.* none. *Styles* 2. *Seeds* solitary.

SPEC. CHAR. . . . . .

SYN. Humulus Lupulus. *Linn. Sp. Pl.* 1457. *Huds. Fl. An.* 433. *With. Bot. Arr. ed.* 3. *v.* 2. 277. *Relh. Cant.* 369. *Sibth. Ox.* 90.
Lupulus mas et fœmina. *Raii Syn.* 137.

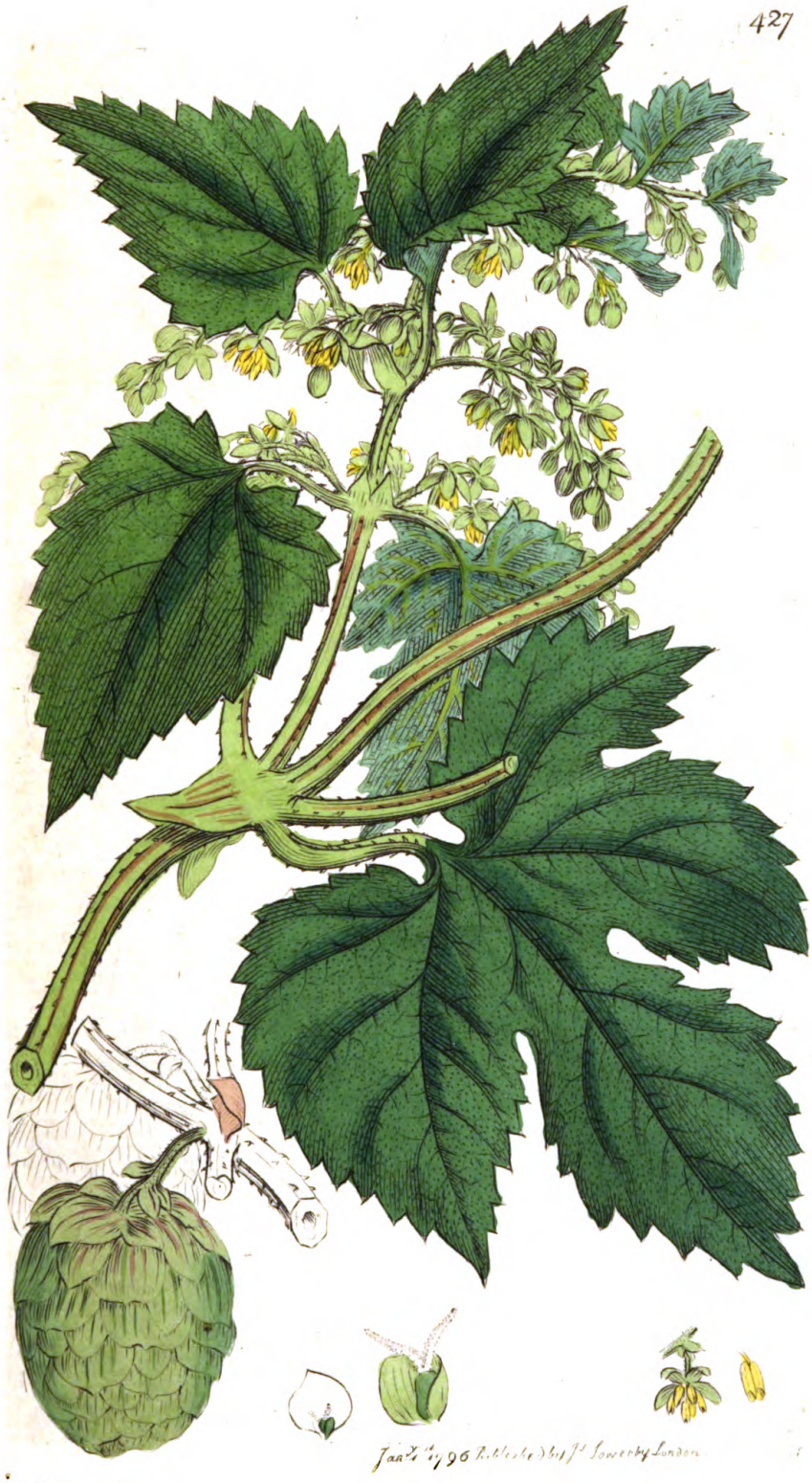
HOPS are found in hedges throughout England, particularly where the soil is strong and moist; nor can there be a doubt of their being indigenous, notwithstanding the old distich,

"Turkeys, Carp, Hops, Pickerel and Beer,
"Came into England all in one year."

This is supposed to have been in Henry VIIIth's reign, when perhaps they were first used for making beer, and (as has been the case with some other plants) might be imported from abroad, though really wild at home. The Pickerel, or Pike, was certainly known and eaten in England in 1281. See Sir John Cullum's History of Hawsted, p. 9. In Scotland the hop, according to Lightfoot, is scarcely indigenous.—Its use and culture are now sufficiently known. Its fragrance and essential properties reside in a (partly volatile) resinous substance, secreted in the scales of the cone. The beauty of its climbing twigs, and vine-like leaves, makes it very ornamental to the counties of Kent, Worcestershire, Shropshire, &c. where it is most cultivated. The very young shoots, when boiled, taste like Asparagus, and are more early.

Root perennial. Stems twining, angular, rough with prickles, leafy. Leaves opposite, on footstalks (which are connected at the base on each side by a reflexed stipula), heart-shaped, undivided or 3-lobed, often 5-lobed, serrated, veiny and harsh. The flowers appear in July, the males on one root, in branched clusters; females on another, in simple axillary catkins, of a totally different structure from the male flowers, whose calyx is simple, of 5 leaves, the 5 stamina short, the antheræ opening by 2 pores at the top; whereas the female is an imbricated catkin of numerous simple entire scales, each enveloping a germen with 2 long downy styles, and all together enlarging into a dry strobilus or cone.

The old generic name *Lupulus*, a little wolf, justly displeased Linnæus, though it seems as tolerable as *Ranunculus*, a little frog. *Humulus* is said by Ambrosinus to be of German origin. Linnæus gives a lame derivation of it from *humus*, moist earth, in Phil. Bot. p. 167.



Jan.y 1st 1796 R. Weekes del. & sc. Sowerby London

63.

TAMUS communis.

Black Bryony.

DIOECIA Hexandria.

GEN. CHAR. Male. *Calyx* in ſix ſegments. *Cor.* none. Female. *Cal.* in ſix ſegments. *Cor.* none. *Style* three-cleft. *Berry* inferior, three-celled. *Seeds* two in each cell.

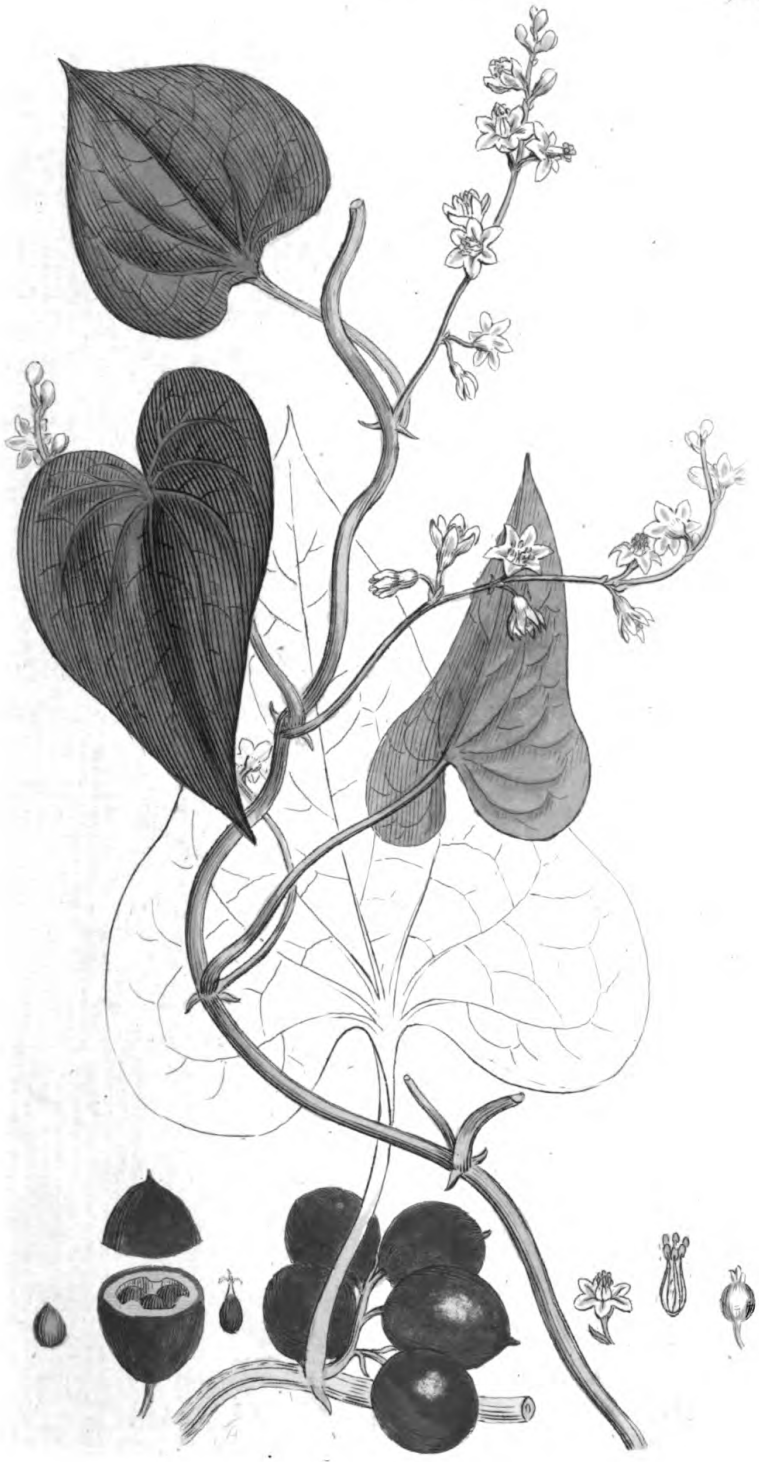
SPEC. CHAR. Leaves heart-ſhaped, undivided.

SYN. Tamus communis. *Linn. Sp. Pl.* 1458. *Hudſ. Fl. An.* 433. *With. Bot. Arr.* 1119. *Relh. Cant.* 370.

Tamnus racemoſa, flore minore luteo-palleſcente. *Raii Syn.* 262.

COMMON in ſhady thickets, hedges, and woods in moſt parts of England, but not in Scotland, nor the more northern countries of Europe, though on the contrary it is found as far ſouth as Algiers and the Levant.

The root is blackiſh externally, whence its ancient denomination *Bryonia nigra*, and the Engliſh name. The ſtems twine about every thing in their way, and ſo aſcend without tendrils to the tops of the more lofty buſhes, which their feſtoons of tawny leaves and red berries decorate agreeably in autumn. Its flowers appear in June, the barren and fertile ones on ſeparate roots, which Mr. Goodyer, an obſerving and accurate friend of Gerarde's, ſeems firſt to have noted. See Geremac. 871. The berries are inſipid, root acrid, and its pulp ſcraped has been formerly uſed as a ſtimulating plaiſter.



POPULUS alba.

Great White Poplar, or Abele.

DIOECIA Octandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin, torn. *Cor.* turbinate, oblique, entire. *Stam.* 8 or more. Female, *Cal.* and *Cor.* like the male. *Stigmas* 4 or 8. *Caps.* superior, with 2 cells and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves roundish, somewhat heart-shaped, lobed and toothed; downy and very white beneath. Female catkins ovate. Stigmas four.

SYN. Populus alba. *Linn. Sp. Pl.* 1463. *Sm. Fl. Brit.* 1079. *Huds.* 433. *With.* 375. *Hull.* 221. *Relh.* 390. *Sibth.* 126. *Abbot.* 215. *Lightf.* 616. *Raii Syn.* 446. *Ehrh. Arb.* 120.
P. major. *Mill. Dict. ed.* 8. *n.* 4.

NOT uncommon in rather moist woods and hedges, or even in mountainous places at some distance from water. The catkins are produced in March, the leaves fully expanded in May or June.

Root creeping, throwing up abundance of suckers. Stem forming a large tree, with a smooth bark, and horizontal spreading branches. Leaves alternate, on longish downy stalks, roundish, bluntish, heartshaped at the base, more or less deeply cut into rather acute lobes, and variously toothed; dark-green, smooth and veiny above, thickly clothed with snow-white cottony down beneath, especially in mountainous or open places. On young and luxuriant branches the leaves are almost palmate. Stipulas on the young branches, linear-lanceolate, toothed. Male catkins cylindrical, with palmate, jagged, hairy scales. Antheras violet-coloured, about 8 or 12, sometimes 20, in each flower. Female catkins ovate, about an inch long, with rather smaller scales than the male. Germen embraced by the corolla. Stigmas 4, linear, all equally spreading, pale yellowish green.

The wood is white, soft, but tough and of a close grain, yet chiefly used for coarse purposes.

July 1806. Published by J. & J. Sowerby, London.

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65.

POPULUS canescens.

Common White, or Grey, Poplar.

DIOECIA Octandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin, tor... *Cor.* turbinate, oblique, entire. *Stam.* 8 or more. Female, *Cal.* and *Cor.* like the male. *Stigmas* 4 or 8. *Caps.* superior, with 2 cells and 2 valves. *Seeds* downy.

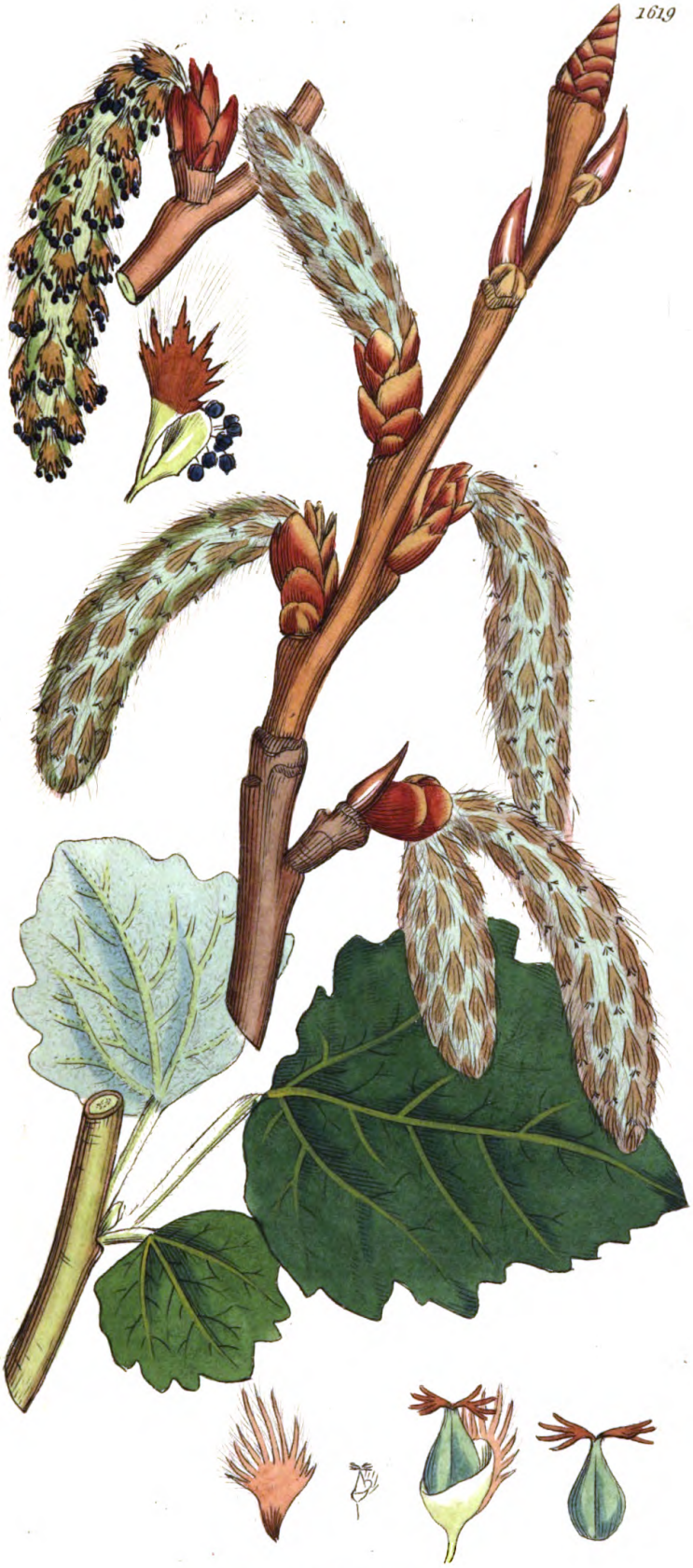
SPEC. CHAR. Leaves roundish, deeply waved, toothed; grey and downy beneath. Female catkins cylindrical. Stigmas eight.

SYN. Populus canescens. *Sm. Fl. Brit.* 1080.
P. alba. *Mill. Dict. ed.* 8. *n.* 1.
P. alba, foliis minoribus. *Raii Syn.* 446.

TO the characters of this species by which it is distinguished from *P. alba* in the *Fl. Brit.* we are now enabled to add the most decisive mark of the 8 stigmas, and we would therefore omit the synonym of Miller's *Illustr. t.* 90.

It is frequently found wild in Norfolk, as on Wells heath, and other places near Holkham, according to Mr. Crowe, growing vigorously either in wet turfy marshes, or in light dry loam on exposed and elevated spots. It creeps full as much as the *alba*, and grows to a tall handsome tree, with more upright and compact branches. The grey silvery hue of the trunk is very beautiful. Mr. Crowe observes that it is of slower growth than the *alba*, the wood much firmer and perhaps more valuable than that of any other of our Poplars, though but little used. Mr. Crowe never saw but one tree cut, which made a floor superior to the best Norway Fir. It is certainly a tree of great profit and ornament, and highly worthy of cultivation.

It blossoms in March, perfecting its leaves in May or June, which are much less white, and less deeply or acutely lobed, than those of *P. alba*. The female catkins are also longer, their scales more cut and hairy, and the stigmas 8, spreading in 2 opposite directions.



July 1806. Published by Jas. Sowerby, London.

J

POPULUS tremula.

Aspen, or Trembling Poplar.

DIOECIA Polyandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin, torn. *Cor.* turbinate, oblique, entire. *Stam.* 8 or more. Female, *Cal.* and *Cor.* like the male. *Stigmas* 4 or 8. *Caps.* superior, with 2 cells and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves nearly orbicular, toothed, smooth on both sides. Footstalks compressed. Young branches hairy. Stigmas four, auricled at the base.

SYN. Populus tremula. *Linn. Sp. Pl.* 1464. *Sm. Fl. Brit.* 1081. *Huds.* 434. *With.* 375. *Hull.* 221. *Relh.* 390. *Sibth.* 126. *Abbot.* 215.

P. Lybica. *Raii Syn.* 446. *Ger. em.* 1487.

A NATIVE of rather moist woods, which will however, like several of its genus, grow in almost any situation, especially where the soil is gravelly. The catkins come forth in March, or early in April.

The roots throw out numerous shallow runners, which, like the more luxuriant young shoots, are often clothed with brown prominent hairs, but never hoary. The tree, when full grown, is tall, smooth, with a round, spreading top. Leaves smooth, roundish with a little point, wavy and bluntly toothed, entire at the base, quivering with every breath of wind (even to a proverb) by means of the long, vertically flattened, footstalks. Stipulas bristle-shaped, hairy, to be seen on the most luxuriant young shoots only. Female catkins 2 inches long, nearly cylindrical, hairy; their scales palmate and jagged. Germen short and thick. Stigmas 4, erect, linear, acute, with a pair of reflexed, ovate, crenate appendages or auricles at their base, the whole when fresh being of a rich crimson.

The wood is white, soft, light, of a fine grain. Beavers, according to the observation of Linnæus, feed on the bark in preference to other food.

July 1. 1808. Published by Jas. Sowerby London

POPULUS nigra.

Black Poplar.

DIOECIA Polyandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin, torn. *Cor.* turbinate, oblique, entire. *Stam.* 8 or more. Female, *Cal.* and *Cor.* like the male. *Stigmas* 4 or 8. *Caps.* superior, with 2 cells and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves deltoid, pointed, serrated, smooth on both sides. Catkins cylindrical, lax. Stigmas four.

SYN. Populus nigra. *Linn. Sp. Pl.* 1464. *Sm. Fl. Brit.* 1081. *Huds.* 434. *With.* 376. *Hull.* 221. *Relh.* 391. *Sibth.* 126. *Abbot.* 215. *Raii Syn.* 446. *Ger. em.* 1486.

FREQUENT in wet shady places near rivers, but it will also grow if planted in dry gravelly ground. It flowers in March, and forms a large tall tree.

The root throws out no suckers. The bark is thick and somewhat spongy. Wood tough and close-grained. Footstalks but half as long as the leaves, sometimes hairy. Leaves deep green, very smooth, trowel-shaped, pointed, serrated; entire, and sometimes extended into an obtuse angle, at the base. Catkins stalked, long, loose and pendulous; their scales occasionally hairy or smooth. Stamens rarely more than 8 with us, though Linnæus and Leers describe 16. Germen elongated, of a slender ovate figure. Stigmas 4, awlshaped, simple.

The reason of our referring this genus, with others, to *Dioecia Polyandria* may be seen in *Introd. to Botany*, 482.

July 1 1808. Published by J. Sowerby London.

68.

RHODIOLA rosea.

Rose-root.

DIŒCIA Octandria.

GEN. CHAR. Male. *Cal.* in 4 parts. *Petals* 4. *Nectaries* 4, notched. Female. *Cal. Pet.* and *Nect.* like the male. *Pistilla* 4. *Capsules* 4, with many seeds.

SPEC. CHAR. . . . .

SYN. Rhodiola rosea. *Linn. Sp. Pl.* 1465. *Huds.* 434. *With.* 389.

Anacampseros radice rosam spirante major. *Raii Syn.* 269.

GATHERED by Mr. Oliver and the Rev. Mr. Harriman on Maze Beck Scar, Westmoreland. We have also received wild specimens from rocks on the north end of the island of Rathlin on the north coast of Ireland, found by J. Templeton, Esq. It is perennial, flowering in May and June.

Root strong and woody, somewhat fleshy, with a grey satin-like bark. When dry it smells like rose-water. Stems several, simple, round, leafy. Leaves imbricated, somewhat obovate, pointed, often toothed towards the upper end, very fleshy, glaucous; in the male tipped with red. Cyme terminal, sessile, much branched. Flowers yellow, generally male and female on different plants, though one of Linnæus's own Lapland specimens appears hermaphrodite, as mentioned in his *Flora Lapponica*, where also he tells us that "the females of such specimens are barren like Sarah, while their husbands the antheræ obtain offspring from the less-splendidly-attired and unmarried Hagars of another plant," meaning the true female flowers, which have no stamina, and none, or but imperfect, petals. Hence Linnæus originally placed the genus in *Polygamia*. It is properly, however, diœcious. The male flowers have a perfect calyx, corolla, and (as we observe) nectaries, with eight or ten stamina, and an abortive four-notched germen, which sometimes grows to the full size of the fertile germen. The female flowers have a smaller calyx and corolla, more wrinkled and reddish, nectaries like the male, no stamina, but four or five distinct fertile germens, becoming capsules, with many seeds. This plant is much allied to *Sedum Telephium*, but cannot be referred to the same genus.

69.

MERCURIALIS perennis.

Perennial Mercury.

DIOECIA Polyandria.

GEN. CHAR. Male. *Cal.* in 3 deep divisions. *Cor.* none. *Stam.* 9 to 12. *Anthers* of 2 globose cells. Female. *Cal.* in 3 deep divisions. *Petals* 2, linear. *Styles* 2. *Capsule* double, 2-celled. *Seeds* solitary.

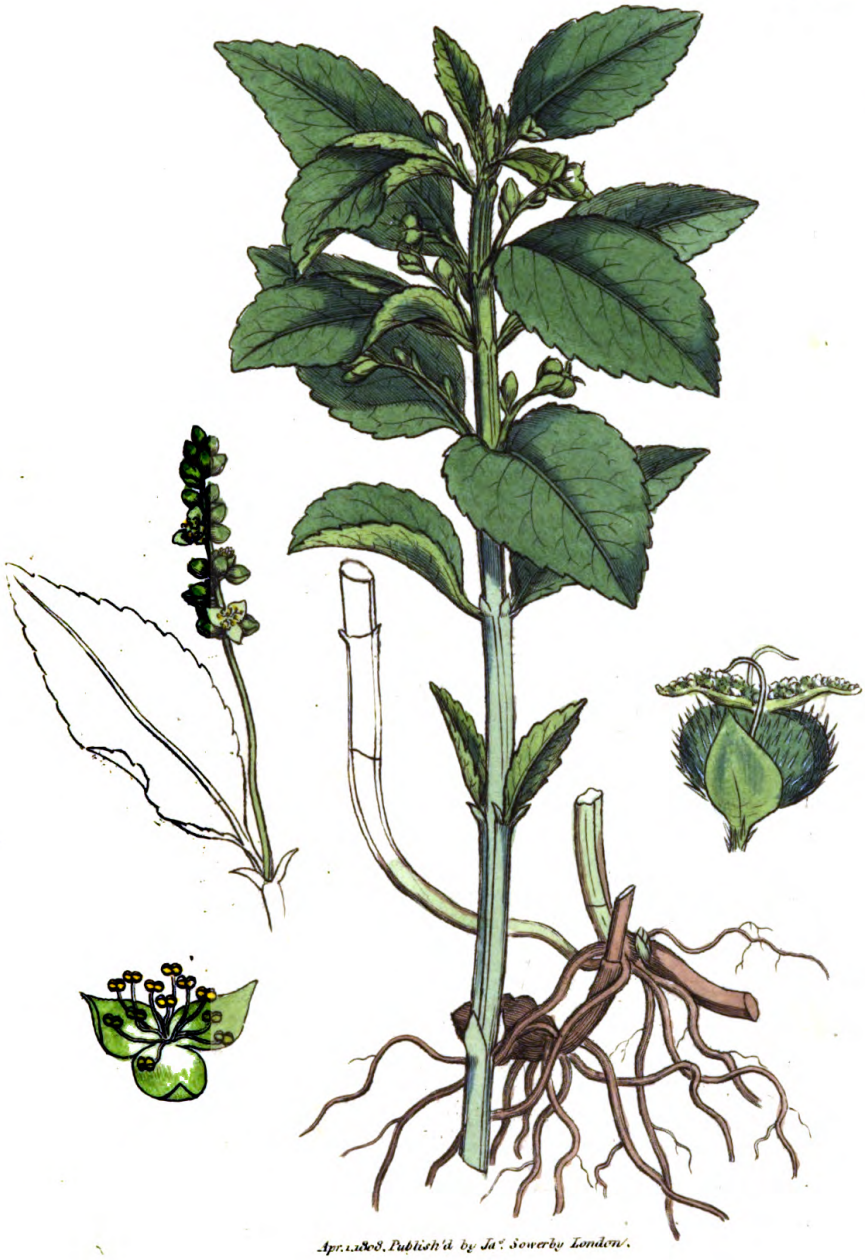
SPEC. CHAR. Stem perfectly simple. Leaves rough. Root creeping.

SYN. Mercurialis perennis. *Linn. Sp. Pl.* 1465. *Sm. Fl. Brit.* 1083. *Huds.* 435. *With.* 392. *Hull.* 222. *Relh.* 391. *Sibth.* 133. *Abbot.* 216. *Curt. Lond. fasc.* 2. *t.* 65.

M. perennis repens, Cynocrambe dicta. *Raii Syn.* 138.

VERY common among trees, bushes and under hedges in the spring, flowering in April and May. It is, as we have observed in speaking of the other British *Mercurialis*, *t.* 559, a fœtid and very poisonous plant. Mr. Curtis suggests that as it has been recommended for a pot herb, probably its virulence is destroyed by boiling, of which there are several similar examples. Dioscorides, however, who describes it clearly enough under the name of Λινοζωστις, still mentions its purgative quality when boiled, and we do not think it promises any thing to counterbalance the danger of its use. It has often been remarked that the old botanists took the male of this plant for the female, which error Theophrastus and Dioscorides have promulgated.

The root is perennial and extensively creeping. Stems a foot high, unbranched, angular, rough like the leaves, which are opposite, stalked, ovate and serrated. Flowers in axillary spikes, green. Petals (rather than nectaries) in the fertile flowers only, of a narrow linear form, which we omitted to mention in the *M. annua*, but which, as constituting a difference of structure between the two blossoms, are of importance with regard to classification. See *Introduction to Botany*, 482.



Apr. 1. 1808. Publish'd by Ja.s Sowerby London.

70.

MERCURIALIS annua.

Annual Mercury.

DIŒCIA Enneandria.

GEN. CHAR. Male. *Cal.* three-cleft. *Cor.* none. *Stam.* 9 to 12. *Antheræ* globose, double.

Female. *Cal.* three-cleft. *Cor.* none. *Styles* 2. *Caps.* double, 2-celled. *Seeds* solitary.

SPEC. CHAR. Stem cross-branching. Leaves smooth. Flowers spiked.

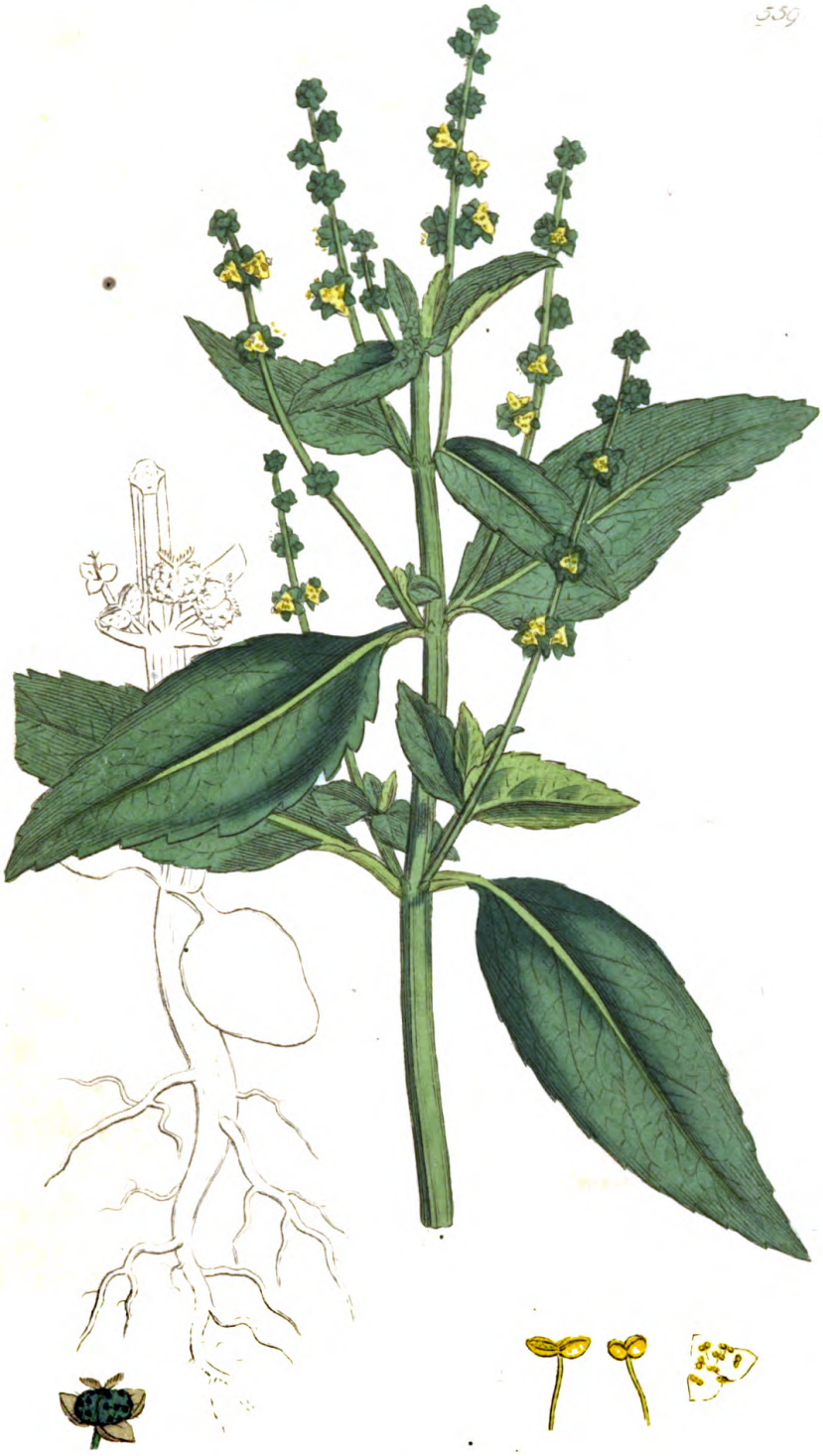
SYN. Mercurialis annua. *Linn. Sp. Pl.* 1465. *Hudſ.* 435. *With.* 392. *Relh.* 372. *Sibth.* 134. *Curt. Lond. faſc.* 5. *t.* 68.

M. annua glabra vulgaris. *Raii Syn.* 139.

A VERY frequent weed in cultivated ground about Norwich, as well as London, and several other towns, flowering in the autumn.

Root annual, branching. Herb smooth, of a darkish but shining green, fœtid, with a smell something like elder. Stem more or less branched, angular and ribbed, the branches crossing each other; the joints a little swelled and polished. Leaves on footstalks, opposite, ovate, acute, serrated. Male flowers in axillary solitary spikes, clustered, green. Female flowers on a separate plant, axillary, on simple flower-stalks, about two together, sometimes accompanied by a male flower seemingly imperfect. Seed-vessel a double or twin prickly capsule, each part formed of two concave valves, and containing one smooth seed.

This cannot be confounded with the perennial Mercury so common in woods and hedge bottoms, whose stem is simple, root creeping, and leaves rough, and which is supposed to be a much more poisonous plant. Indeed we would advise the present species to be used, if at all, with great caution. Ray speaks of it as emollient and cleansing, and says it is of very frequent use in injections. He adds, that it takes off warts: a sufficient contradiction of its emollient reputation. In fact, it belongs to the same natural order as the *Euphorbia*, one of the most virulent plants we have, and very nearly agrees with it in sensible qualities.



Published by

HYDROCHARIS Morſus-ranæ.

Common Frog-bit.

DIOECIA Enneandria.

GEN. CHAR. Male, *Cal.* 3-cleft. *Pet.* 3. Three interior *filaments* beaked. Female, *Cal.* 3-cleft. *Pet.* 3. *Styles* 6. *Capſ.* inferior, with 6 cells, and many *ſeeds*.

SPEC. CHAR. . . . .

SYN. Hydrocharis Morſus-ranæ. *Linn. Sp. Pl.* 1466. *Hudſ.* 436. *With.* 394. *Hull.* 222. *Relh.* 373. *Sibth.* 135. *Abbot.* 216. *Curt. Lond. faſc.* 3. *t.* 64.

Stratiotes foliis Aſari, ſemine rotundo. *Raii Syn.* 290.

THE *Hydrocharis* is perennial, floating on the ſurface of ditches and ſlow ſtreams, almoſt covering the water with its leaves, and agreeably enlivening it with its delicate and brilliant bloſſoms in the months of July and Auguſt. The ſtems throw out from their joints cluſters of leaves and flowers, accompanied by brown membranous ſtipulæ, along with ſeveral ſtraight ſimple roots, that deſcend perpendicularly into the mud. Every part is ſmooth. The leaves kidney-ſhaped, entire, often purple beneath. Like moſt aquatics they abound with air-veſſels, perſpire very copiouſly, and dry rapidly. The flowers form a ſort of ſmall umbel, inveſted with a pair of bracteæ, but only one flower in each umbel opens at a time; they are dioecious, and very ſhort-lived. In the male flowers about 3 of the upper or interior ſtamina are barren, the filament terminating in a ſimple or forked beak, reſembling a ſtyle; while the ſtyles of the female have a few imperfect antheræ cluſtered about their baſe.

Ray mentions a variety with fragrant double flowers, which Mr. Relhan informs us is not now to be found in the place he indicates. Flowers with 6 petals now and then occur.

Nov.r 1. 1800. Publish'd by Ja.s Sowerby, London.

JUNIPERUS communis.

Common Juniper.

DIOECIA Monadelphia.

GEN. CHAR. Male, *Cal.* ſcales of a catkin. *Cor.* none. *Stam.* 3. Female, *Cal.* ſcales of a catkin, fewer, at length pulpy, united into a *berry* with 3 *ſeeds.*

SPEC. CHAR. Leaves three together, ſpreading, tipped with a ſpine, and longer than the ripe fruit.

SYN. Juniperus communis. *Linn. Sp. Pl.* 1470. *Hudſ.* 436. *With.* 599. *Hull.* 222. *Relh.* 392. *Sibth.* 210. *Woodv. Med. Bot. t.* 95.

J. vulgaris, baccis parvis purpureis. *Raii Syn.* 444.
β. J. alpina. *Raii Syn.* 444.

SENT us by the Rev. Dr. Abbot from Juniper-hill between Middleton-ſtony and Oxford early in June laſt. This ſhrub delights in open hilly ſpots on a limeſtone ſoil, and grows abundantly in ſuch places, though by no means a general Britiſh plant.

The ſtrong woody intricate ſtems and branches ſpread widely, and are clothed with ſmooth, pungent, linear, evergreen, ſpreading leaves, glaucous on their upper ſide, placed three together in alternate parcels. Catkins dioecious, axillary, ſolitary, ſeſſile, ſmall, accompanied by imbricated bracteæ. Antheræ creſted, yellow, at length brown. Berry globoſe, dark purple with a glaucous tinge, ſweetiſh; formed of the confluent ſcales of the female catkin, and containing three oblong, angular ſeeds, to which are attached little veſicles full of the ſame turpentine-like eſſential oil which is diffuſed throughout the whole ſhrub, and which is procured from the berries by diſtillation, for medicinal purpoſes.——The alpine variety β (for we can ſcarcely believe it a ſpecies) is more humble in its growth, and has broader leaves with rather oblong berries.

Dec.r 1 1802 Published by Ja.s Sowerby London.

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TAXUS baccata.

Yew Tree.

DIOECIA Monadelphia.

GEN. CHAR. Male, *Cal.* none. *Cor.* none. *Stam.* numerous. *Anth.* peltate, lobed.

Female, *Cal.* cup-ſhaped, entire. *Style* none. *Seed* 1, ſtanding on the pulpy calyx.

SPEC. CHAR. Leaves thickly ſet.

SYN. Taxus baccata. *Linn. Sp. Pl.* 1472. *Hudſ.* 437. *With.* 614. *Hull.* 222. *Relh.* 374. *Sibth.* 216.

Taxus. *Raii Syn.* 445.

THE proper wild ſituation of the common yew is in mountainous woods, or more particularly the clefts of high calcareous rocks. Several fine old trees of this ſpecies, from which our ſpecimen was taken, are to be ſeen on ſome ſandy rocks about 2 miles from Withyam and 5 from Tunbridge. It flowers in March and April. The fruit ripens in autumn.

The trunk is known by its ſtraight form and ſmooth deciduous bark. The wood is very hard, tough, and of a fine grain, famous in ancient times for making bows, and uſed in more modern days in the finer kinds of cabinet work for inlaying. Church-yards in the mountainous parts of Britain, eſpecially in Wales, are always planted with yew-trees, ſuppoſed to have been intended to furniſh bows for the village archers. The gloomy funereal aſpect of the tree might be another cauſe of its being planted in ſuch ſituations; its being eaſily clipped without injury into the moſt whimſical ſhapes, ſeems the only reaſon why it could find a place in the pleaſure garden. The leaves are thickly ſet, linear, ſmooth, ever-green. Flowers axillary, enveloped with imbricated bracteæ; the male on one tree, ſulphur-coloured, without a calyx; the female on another, with a ſmall green calyx ſuſtaining the oval flattiſh ſeed, which calyx at length becomes red, ſoft, full of a ſweet ſlimy pulp, that is not unwholeſome, though the leaves are very poiſonous.

ATRIPLEX portulacoides.

Shrubby Orache, or Sea Purſlane.

POLYGAMIA Monœcia.

GEN. CHAR. Hermaphr. *Cal.* 5-leaved. *Cor.* none. *Stam.* 5. *Style* cloven. *Seed* 1, depreſſed.

Fem. *Cal.* 2-leaved. *Cor.* none. *Style* cloven. *Seed* 1, compreſſed.

SPEC. CHAR. Stem ſhrubby. Leaves obovate.

SYN. Atriplex portulacoides. *Linn. Sp. Pl.* 1493. *Hudſ. Fl. An.* 442. *With. Bot. Arr.* 1143. *Relh. Cant.* 378.

A. maritima fruticoſa, Halimus et Portulaca marina dicta, anguſtifolia. *Raii Syn.* 153.

ABUNDANT on the ſea ſhore in a clay ſoil, flowering in the latter part of ſummer.

The roots are long, woody, creeping and perennial. Stems ſhrubby, branched, ſpreading, about 1 or 2 feet high, round below, quadrangular above, clothed with oppoſite entire leaves, which vary in ſhape, being occaſionally obovate or lanceolate. Denſe cluſters of flowers in compound ſpikes terminate the ſtem and branches, and the lowermoſt ſpikes generally ariſe from the boſoms of 2 or 3 alternate leaves. One kind of flowers have yellowiſh antheræ, and a green regular 5-cleft calyx, turning yellow in decay; we have not obſerved any germen or ſtyle in theſe. The other kind are female, with 2 red downy ſtigmas, and a calyx of 2 equal valves. It is poſſible that hermaphrodite flowers may be occaſionally intermixed.

The whole plant is of a ſilvery glaucous hue, not inelegant. The leaves when dry are finely dotted beneath. The juices abound with alkaline ſalt.

75.

ATRIPLEX laciniata.

Frosted Sea Orache.

POLYGAMIA Monoecia.

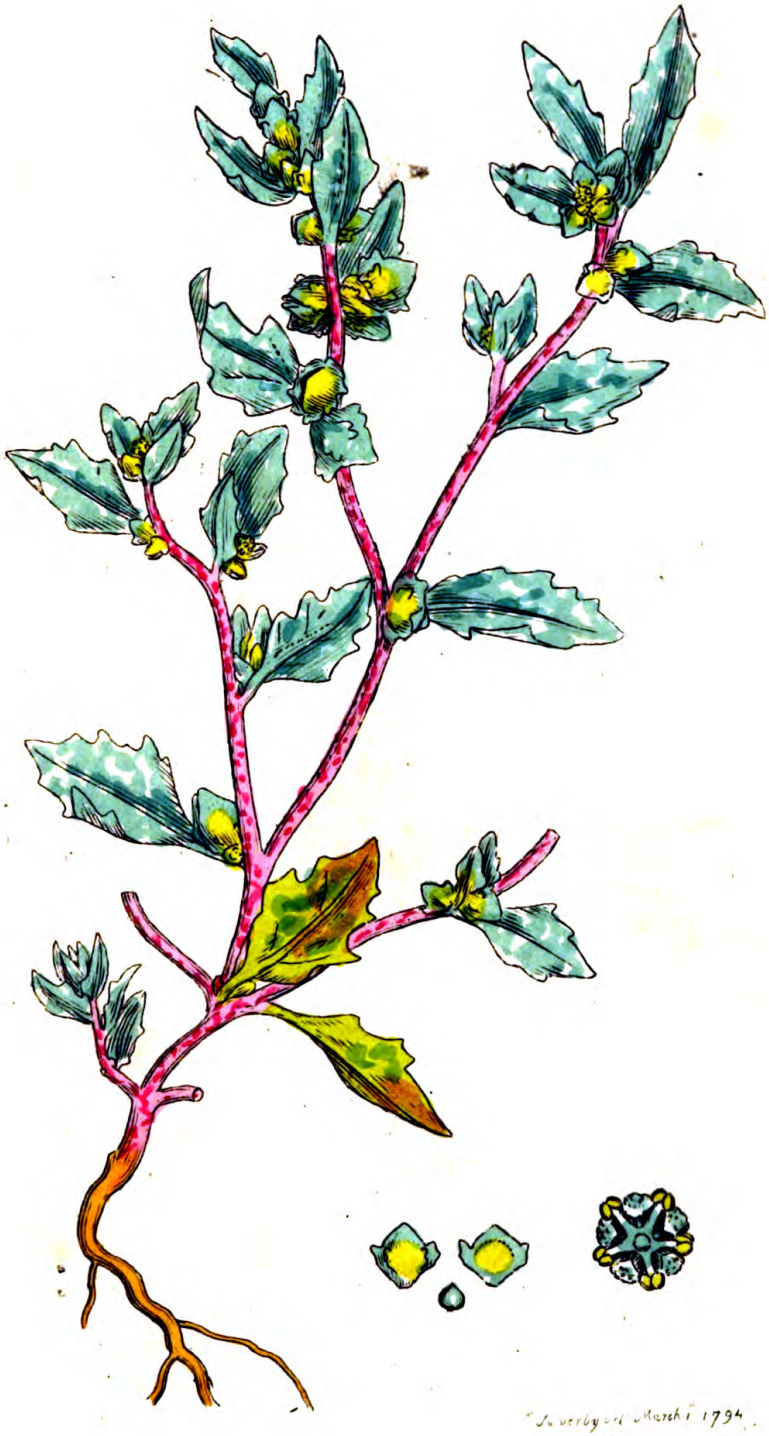
GEN. CHAR. Hermaphrodite. *Cal.* 5-leaved. *Cor.* none. *Stam.* 5. *Style* cloven. *Seed* 1, depressed. Female. *Cal.* 2-leaved. *Cor.* none. *Style* cloven. *Seed* 1, compressed.

SPEC. CHAR. Stem herbaceous, spreading. Leaves trowel-shaped, angular and dentated, very mealy beneath.

SYN. Atriplex laciniata. *Linn. Sp. Pl.* 1494. *Hudſ. Fl. An.* 442. *With. Bot. Arr.* 1143. *Lightf. Flo. Scot.* 636. *Dickſ. Hort. ſicc. faſc.* 4. *n.* 15.
A. maritima. *Raii Syn.* 152.

GATHERED laſt Auguſt on the beach near Landguard-fort by Dr. Smith, who alſo found it plentifully at Leith near Edinburgh. This is the real Atriplex laciniata of Linnæus, though the deſcription in *Sp. Pl. ed.* 2, does not altogether accord with our Britiſh ſpecimens, owing to that deſcription having been made from the conſideration of ſeveral ſpecimens in the Linnæan herbarium which to us appear diſtinct ſpecies. Mr. Lightfoot's and Mr. Woodward's deſcriptions are good; but we cannot agree with Mr. Hudſon in referring any of the varieties of our plant to the A. tatarica, though poſſibly ſome of the above-mentioned ſpecimens, deſcribed by Linnæus for laciniata, may belong to tatarica.

Our laciniata is a very diſtinct and eaſily diſcriminated ſpecies. Its ſtem is round, always ſpreading, generally proſtrate, much branching, and more or leſs zigzag, by no means wand-like (*virgatus*), its colour white or reddiſh. Leaves moſtly alternate, more or leſs triangular, but lengthened out at the baſe, deeply and unequally toothed and ſinuated, though not properly laciniated, clothed (eſpecially beneath) with white ſilvery ſcales, which likewiſe appear on other parts of the plant. Even the hermaphrodite flowers are ſcarcely ſpiked, and the female ones are axillary. The ſeed of the former we have not found in perfection. The calyx of the latter grows very large, and is generally furniſhed with lateral protuberances; it encloſes a large compreſſed ſmooth ſeed. The root is annual, and thrives in the pure ſand of the ſea-ſhore.



Sowerby del. March 1 1794.

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76.

ATRIPLEX patula.

Spreading Halberd-leaved Orache.

POLYGAMIA Monoecia.

GEN. CHAR. Hermaphr. *Cal.* in 5 divisions, inferior. *Cor.* none. *Stam.* 5. *Style* cloven. *Seed* 1, depressed. Female. *Cal.* 2 leaved. *Cor.* none. *Style* cloven. *Seed* 1, compressed.

SPEC. CHAR. Stem herbaceous, spreading. Leaves triangular-lanceolate, somewhat halberd-shaped. Calyx of the fruit more or less tuberculated at the sides.

SYN. Atriplex patula. *Linn. Sp. Pl.* 1494.
A. hastata. *Hudſ.* 443. *With.* 274. *Hull.* 226. *Relh.* 379. *Sibth.* 90. *Abbot.* 219. *Lightf.* 636. *Curt. Lond. fasc.* 2. *t.* 66.
A. sylvestris, folio hastato seu deltoide. *Raii Syn.* 151.

ALL our botanists had taken this common Orache for the *A. hastata* of Linnæus, till his herbarium discovered it to be his *patula*. The real *hastata* proves a very different plant, having the valves of the female calyx, when in fruit, very large, membranous, reticulated with veins, and bordered with long setaceous teeth.

A. patula grows every where on dunghills, waste or cultivated land, flowering from June to August. Root always annual, fibrous. Stem with long spreading numerous branches. Leaves alternate, on stalks, mealy beneath; the lower ones hastate, deeply and irregularly toothed; the upper narrower, lanceolate, mostly entire. Clusters of flowers terminal and axillary, long, interrupted, a little leafy. Valves of the female calyx, which alone seems to ripen seed, triangular, acute, toothed about the lateral angles, studded in the middle with a few prominent tubercles. Seed large, rather spiral, dotted.

By the sea-side the whole plant is procumbent, more fleshy, reddish, and all the leaves sometimes entire.

√

ATRIPLEX angustifolia.

Spreading Narrow-leaved Orache.

POLYGAMIA Monoecia.

GEN. CHAR. Hermaphr. *Cal.* in *5* divisions, inferior. *Cor.* none. *Stam.* 5. *Style* cloven. *Seed* 1, depressed. Female, *Cal.* 2-leaved. *Cor.* none. *Style* cloven. *Seed* 1, compressed.

SPEC. CHAR. Stem herbaceous, spreading. Leaves lanceolate, entire; the lower ones somewhat hastate. Calyx of the fruit hastate, slightly tuberculated at the sides.

SYN. Atriplex angustifolia. *Sm. Fl. Brit.* 1092.
A. patula. *Huds.* 443. *With.* 275. *Hull.* 226. *Sibth.* 90. *Abbot.* 219. *Lightf.* 637.
A. patula β. *Relh.* 396.
A. sylvestris angustifolia. *Raii Syn.* 151.

EXTREMELY common in the autumn about dunghills, hedges, and waste ground, accompanying *A. patula, t.* 936. Both are conspicuous for their long straight divaricated branches, laden, toward the close of the year, with the peculiar enlarged calyces, by which an *Atriplex* is known from a *Chenopodium.*

Root annual. Stems even more divaricated than those of *A. patula,* 3 or 4 feet long, of a deep glaucous hue, striated. Lower leaves hastate, but not toothed nor sinuated; upper lanceolate and likewise quite entire; all spreading horizontally. Valves of the fruit-bearing calyx hastate, or triangular with an elongated acute summit, entire at the edge; their disk either quite smooth, or scattered with only a few tubercles. Seed but half the size of *A. patula,* though it is necessary to observe that in our present figure the parts in question are more magnified in proportion, or rather more advanced in age, than those drawn in *t.* 936. We believe the two species to be perfectly distinct.

Aug. 1.1807. Published by Ja.s Sowerby London.

ATRIPLEX erecta.

Upright Spear-leaved Orache.

POLYGAMIA Monoecia.

GEN. CHAR. Hermaphr. *Cal.* in 5 divisions, inferior. *Cor.* none. *Stam.* 5. *Style* cloven. *Seed* 1, depressed. Female, *Cal.* 2-leaved. *Cor.* none. *Style* cloven. *Seed* 1, compressed.

SPEC. CHAR. Stem herbaceous, erect. Leaves ovato-lanceolate; the lower ones sinuated. Calyx of the fruit all over muricated.

SYN. Atriplex erecta. *Huds. ed.* 1. 276. *Sm. Fl. Brit.* 1093. *Hull. ed.* 2. 307.

A. patula β. *Huds. ed.* 2. 444.

A. angustifolia laciniata. *Dill. in Raii Syn.* 152.

IT is strange that no recent botanist has found this plant. The late Professor Martyn sen. is said to have gathered it on the entrance into Battersea field from Nine Elms, a place since much changed by cultivation and improvement, which we have examined in vain. We are therefore obliged to have recourse to a dried specimen in Mr. Rose's herbarium, named under the inspection of Mr. Hudson, who at first rightly defined this species, though he afterwards very mistakenly referred it to his *patula*, our *angustifolia*, *t.* 1774, as a variety.

It is known by its upright stem, which is much branched and panicled in the upper part, and especially by the very abundant and crowded fruit, only one third as large as that of *angustifolia*, and all over strongly armed with prominent tubercles. The leaves are stalked, ovato-lanceolate and acute when young powdery at their backs; the lower ones somewhat toothed and sinuated.

We trust our figure and description may lead some botanist, not exclusively devoted to the more ornamental plants, to detect and ascertain this long neglected weed.

Lon. Published by J. C. Sowerby

J

ATRIPLEX littoralis.

Grafs-leaved Sea-Orache.

POLYGAMIA Monœcia.

GEN. CHAR. Hermaphr. *Cal.* in 5 divifions, inferior. *Cor.* none. *Stam.* 5. *Style* cloven. *Seed* 1, depreffed.

Female. *Cal.* 2 leaved. *Cor.* none. *Style* cloven. *Seed* 1, compreffed.

SPEC. CHAR. Stem herbaceous, erect. Leaves all linear, entire or toothed. Calyx of the female flowers muricated, finuated.

SYN. Atriplex littoralis. *Linn. Sp. Pl.* 1494. *Hudf.* 444. *With.* 275. *Hull.* 226.

A. maritima, Scopariæ folio. *Dill. in Raii Syn.* 153.

β. A. ferrata. *Hudf.* 444.

A. anguftifolia maritima dentata. *Raii Syn.* 152.

NOT unfrequent on the eaftern and fouthern coafts of this kingdom in a muddy foil, flowering in Auguft and September.

Root fibrous, annual. Stem erect, angular, leafy, with upright leafy branches. Leaves alternate, on footftalks, flat, linear, blunt or fharp, various in length and breadth, whence Dillenius has introduced two moft trivial varieties in *Raii Syn.* 153; their margin is fometimes quite entire, but more generally fet with fmall fcattered teeth, fometimes deeply toothed or finuated, when it becomes the A. *ferrata* of Hudfon. The under fide of the leaves, as well as the flowers and young branches, are covered with a meally hoarinefs. Spikes terminal, denfe, obtufe; fhort when in flower, afterwards more lengthened out. We believe the hermaphrodite flowers, in this (as in moft of our wild Oraches) generally do not ripen any feed. The female ones on the contrary are always fertile; their valves are after flowering much enlarged, ovate, deeply and irregularly finuated, furnifhed externally with feveral large prominent pointed tubercles. The feed is flat, its cotyledons fomewhat fpiral.

The leaves turn black in drying, like many other fea plants.

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ATRIPLEX pedunculata.

Pedunculated Sea-Orache.

POLYGAMIA Monœcia.

GEN. CHAR. Hermaphr. *Cal.* 5-leaved. *Cor.* none. *Stam.* 5. *Style* cloven. *Seed* 1, depressed. Female, *Cal.* two-leaved. *Cor.* none. *Style* cloven. *Seed* 1, compressed.

SPEC. CHAR. Stem herbaceous, with divaricating branches. Leaves lanceolate, obtuse, undivided. Fruit of the female flowers on footstalks.

SYN. Atriplex pedunculata. *Linn. Sp. Pl.* 1675. *Hudf. Fl. An.* 444. *With. Bot. Arr.* 1146.

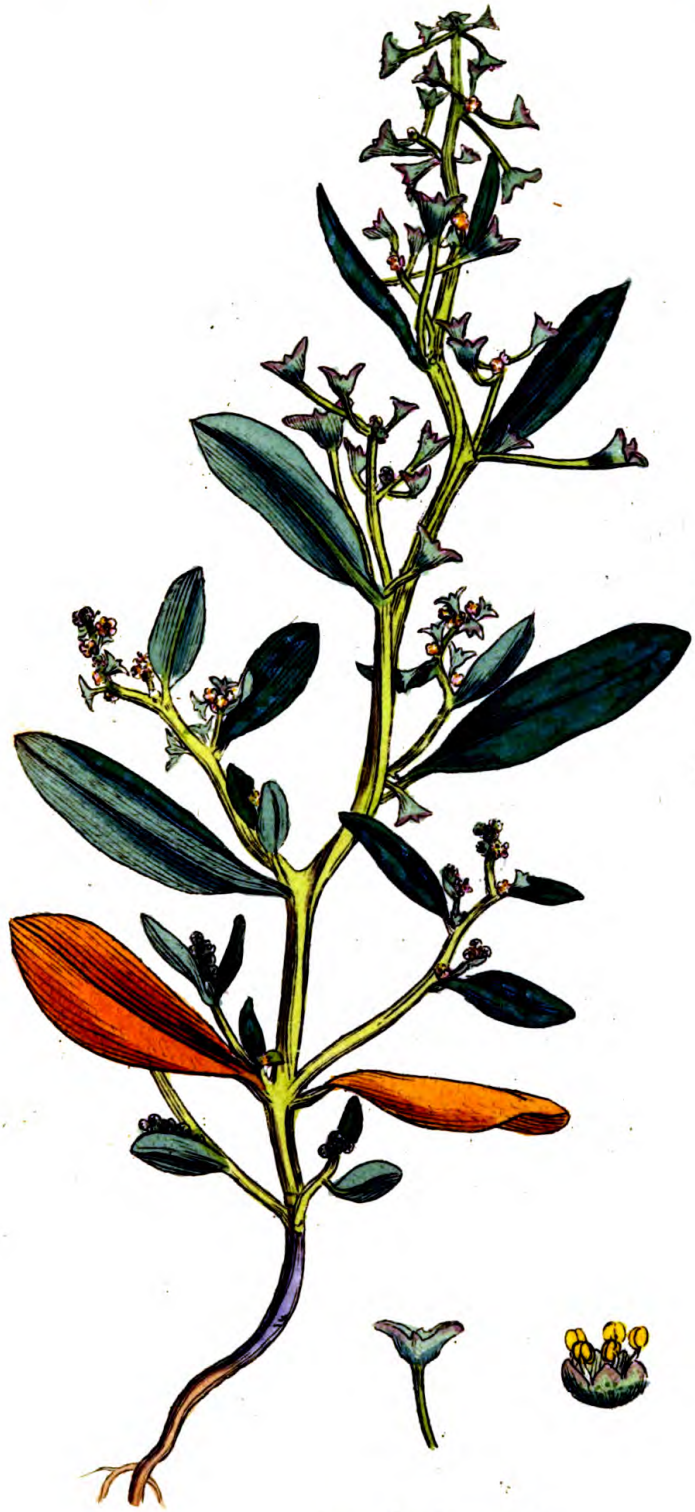
A. marina femine lato. *Raii Syn.* 153.

β A. maritima nostras, Ocymi minoris folio. *Ibid.*

NO obscurity envelops this species. The pedunculated fruit distinguishes it at first sight. In a young state it is known from *A. portulacoides* by being herbaceous. It grows in salt marshes near Yarmouth, and was found by Dr. Smith in 1778 on the muddy shore of the river Ouse, just below Lynn. We believe it had not been observed in England before, since the time of Sherard. The small variety β is less uncommon.

Root annual, small. Stem zigzag, angular, with many alternate spreading branches. Leaves lanceolate, somewhat elliptical, undivided and entire. Flowers spiked, small; the two kinds scarcely distinguishable till the females in ripening are exalted on long flowerstalks, and become enlarged, wedge-shaped, and compressed. The whole herb is glaucous, clothed with a scaly mealiness. It flowers in August and September.

Whatever may be thought of the greater part of exotic plants placed by Linnæus in his class *Polygamia*, the genus of Atriplex, having *a different structure* in the two flowers, shows that class to be founded in nature. It would be a curious experiment to try whether the compressed and depressed seeds are both equally fertile, and produce the same kind of plants as to habit. Similar experiments are worth making on the seeds of such Syngenesious flowers as are polygamous. Practical gardeners and country botanists have it in their power to advance science by such inquiries, whose results would be acceptable to literary societies, or authors occupied in natural history.



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