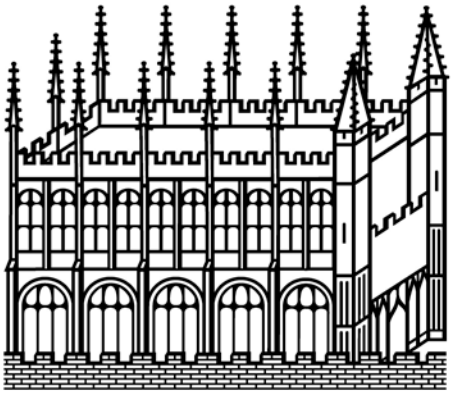

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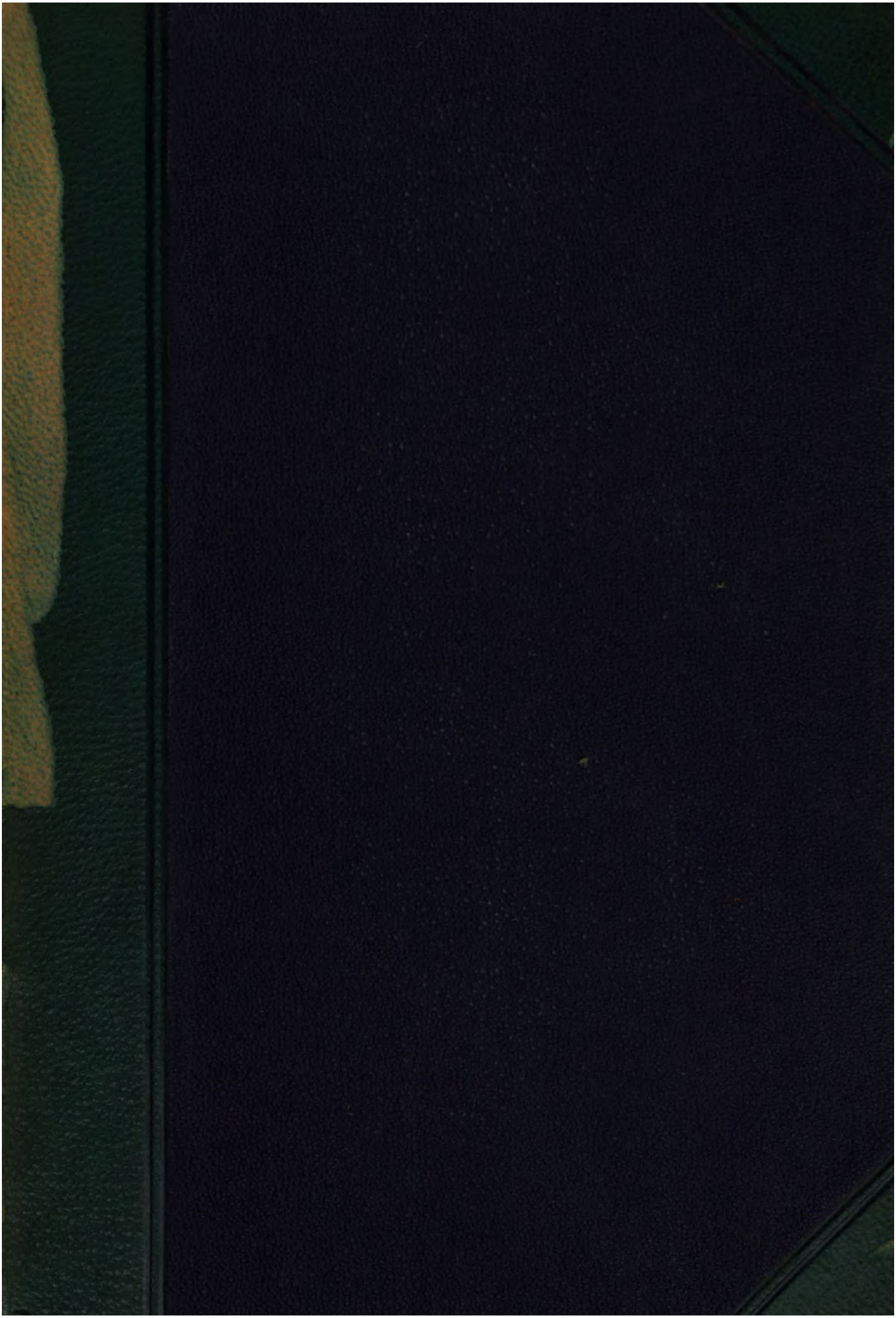

D :

FAMILIAR
WILD FLOWERS.

FIGURED AND DESCRIBED BY

F. EDWARD HULME, F.L.S., F.S.A.

"There lives and works
A soul in all things, and that soul is God.
The beauties of the wilderness are His,
That make so gay the solitary place.
He sets the bright procession on its way,
And marshals all the order of the year;
And ere one flowering season fades and dies,
Designs the blooming wonders of the next."

COWPER.

Fourth Series.

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CONTENTS.

SUMMARY.

It should be prefaced that this Summary merely professes to give a brief epitome of each of the plants represented in this volume, and that it is principally a condensation from the writings of Hooker, Lindley, Bentham, or other authorities on the subject.*

CORN-MINT, *MENTHA ARVENSIS. Nat. Ord., Labiatæ.*—Calyx tubular, campanulate, equal, five-toothed. Corolla monopetalous, hypogynous, tubular, nearly regular, four-cleft. Stamens four, diverging. Ovary one, deeply lobed. Style arising from between lobes. Stigma two-lobed. Flowers in dense axillary whorls. Achenes four, within calyx. Leaves opposite, stalked, ovate, serrate, hairy. Stem square.—Cornfields. July, August, September. Perennial.

ANEMONE, *ANEMONE NEMOROSA. Nat. Ord., Ranunculaceæ.*—Calyx petaloid, white, often pink or purple beneath, glabrous, of five to nine oval sepals. Corolla wanting. Stamens and styles indefinite. Fruit an achene, horned. Flower-stem bearing single flower at its summit, and having a single ring of three involucral tri-partite serrate leaves. Radical leaves of similar character. Root-stock horizontal, black.—Woods and sheltered hedgerows. March, April, May. Perennial.

SAW-WORT, *SERRATULA TINCTORIA. Nat. Ord., Compositæ.*—Calyx adherent with ovary. Corolla tubular. Involucre oblong, imbricated with unarmed or downy scales, glabrous. Stamens five. Anthers syngenesious, ecaudate at base, appendages obtuse. Ovary one. Style one, sheathed by anther tube, bifid at apex; the stigmas

* See Prefatory Note to the Summary, Series I.

along each branch. The plant diœcious. Fruit an achene, obovate, glabrous, compressed; pappus pilose, hairs filiform, in several rows. Receptacles chaffy. Flower-heads in corymbs. Lower leaves pinnatifid or pinnate; upper ones lanceolate; all finely serrate. Stems erect, stiff, slightly branching.—Woods and copses, sheltered pastures. July, August. Perennial.

WOOD SORREL, *OXALIS ACETOSELLA. Nat. Ord., Oxalidaceæ.* —Calyx of five short ovate sepals, membranous, ciliate, tinged with purple, persistent. Petals five, retuse, ovate-cuneiform, striate with purple veins; claws small, yellowish. Flowers solitary, fragile looking, drooping. Stamens ten, five shorter than the others. Ovary superior, roundish, bearing five erect and filiform styles. Fruit capsular, membranous, five-celled, five-valved. Leaves radical, on long, slender, naked petioles; each composed of three equal, entire, obcordate leaflets, purplish beneath; hairy, spreading, drooping at night. Flower-stems with two ovate, scaly bracts. Root-stock creeping, jointed, scaly.—Woods and shady hedgerows. May. Annual.

HEATH or **LING,** *CALLUNA VULGARIS. Nat. Ord., Ericaceæ.* —Calyx of four coloured lanceolate leaves, much larger than corolla, and accompanied by four external small, ovate, pointed, spreading bracts. Stamens eight; anthers clustering in a ring round style, and furnished with two appendages. Corolla monopetalous, campanulate, marcescent, purple, deeply divided into four segments, drooping. Style filiform, longer than calyx. Stigma quadrifid. Leaves numerous, small, spurred at base, opposite, sessile, placed round the small branches in four rows. Stem upright, wiry, freely branching. Inflorescence racemose. Capsule four-celled, four-valved.—Heaths and moors. June, July, August. Perennial.

HOP TREFOIL, *TRIFOLIUM PROCUMBENS. Nat. Ord., Leguminosæ.*—Calyx of five unequal teeth. Corolla papilionaceous, petals narrow, cohering by their claws, persistent; the standard deflexed after flowering, and striate. Stamens ten, diadelphous. Ovary one-celled. Style and stigma one. Flowers small, in dense, oval, many-flowered heads, on long axillary peduncles. Pod scarcely projecting beyond calyx, two-valved. Leaves alternate, stipulate, trifoliate,

stalked; leaflets serrate, obcordate. Stipules broad and pointed. Stem erect and procumbent, freely branched at base.—Dry pastures and hedge-banks. June, July, August. Annual.

CROSS-LEAVED HEATH, *ERICA TETRALIX.* ***Nat. Ord.,*** ***Ericaceæ.***—Calyx of four leaves, hairy. Corolla monopetalous, ovate, the mouth divided into four reflexed segments, marcescent, rose-coloured, drooping. Flowers umbellate-capitate, all inclined one way. Stamens eight. Anthers purple, closing together in a ring, awned at base. Style filiform. Seed-vessel capsular, four-valved, four-celled. Leaves in rings of fours, linear, ciliate, revolute at margins. Stalk shrubby, freely branching, wiry, rough.—Heaths and moorlands. July, August. Perennial.

TOUCH-ME-NOT, *IMPATIENS NOLI-ME-TANGERE.* ***Nat. Ord.,*** ***Balsaminaceæ.***—Sepals four or five, one spurred and recurved, very irregular in structure. Petals also variable, yellow, orange-spotted, ordinarily two. Both calyx and corolla coloured. Stamens five, filaments more or less united and very short. Anthers cohering. Ovary five-celled. Stigmas five, sessile. Peduncles many-flowered, slender. Fruit a capsule, having five elastic valves, rolling back suddenly when touched, when ripe. Leaves exstipulate, alternate, ovate, serrate, petiolate, flaccid. Stem succulent, swelling at the joints, and snapping readily at those points, erect, branching.—Moist woods. July, August, September. Annual.

RED BARTSIA, *BARTSIA ODONTITES.* ***Nat. Ord., Scrophulariaceæ.***—Calyx tubular, dull red, quadridentate, hirsute, teeth equal and sharp. Corolla monopetalous, ringent, irregular; upper lip convex and notched; lower lip divided into three equal obtuse segments. Stamens four, didynamous, unequal. Style filiform, at first beneath upper lip of corolla, but afterwards longer. Stigma two-lobed. Fruit an oval, oblong, compressed capsule, two-celled, many-seeded. Inflorescence, numerous long, erect, racemes, often nodding at summit, and having the blossoms thrown out in one direction. Bracts lanceolate, upright, dull purplish. Leaves opposite, sessile, lanceolate, turning back, slightly serrate, hirsute. Stem upright, freely branching, hirsute, square.—Cornfields, roadsides, and waste ground. June, July, August. Annual.

MOUNTAIN POPPY, *MECONOPSIS CAMBRICA.* ***Nat. Ord.,*** *Papaveraceæ.*—Calyx of two deciduous sepals. Corolla of four large, pale yellow, crumpled petals. Stamens indefinite. Stigma rayed. Ovary one-celled. Fruit capsular, oblong, glabrous, many-seeded. Flowers singly on long peduncles. Leaves stalked, alternate, bright green; downy or slightly hairy, pinnate, the segments toothed, lobed, or pinnatifid. Stems erect, round. Whole plant herbaceous.—Rocks and woods. June. Perennial.

MILK THISTLE, *CARDUUS MARIANUS.* ***Nat. Ord., Compositæ.*** Flower-heads on summits of branches, large, purple; florets perfect, infundibuliform, with curved tube, segments five, equal, linear. Filaments short, monadelphous; anthers purple. Ovary ovate, surmounted by filiform style. Stigma bifid. Receptacle pilose. Fruit angular, wrinkled, crowned with simple and rigid pappus. Involucre of many imbricate and recurved scales, spinous at apex and on margins, subfoliaceous. Leaves large, alternate, sinuate, spiny, veined with white; lower leaves spreading, pinnatifid; upper ones waved, amplexicaul, ovate-lanceolate. Stems erect, firm, branched, striate. Hedges, banks, rubbish-heaps. June, July. Biennial.

HAIRY ST. JOHN'S WORT, *HYPERICUM HIRSUTUM.* ***Nat. Ord., Hypericaceæ.***—Calyx five-partite, inferior, the sepals lanceolate, acute, with glandular serratures. Petals five, unequal-sided. Stamens numerous, triadelphous. Ovary one. Styles three. Flowers numerous, in a pyramidal panicle, yellow. Capsules many-seeded, Stem erect, hairy. Leaves opposite, stalked, slightly downy, ovate, entire, marked with pellucid dots.—Woods and thickets, more particularly on the chalk. July, August. Perennial.

CORN BLUE-BOTTLE, *CENTAUREA CYANUS.* ***Nat. Ord.,*** *Compositæ.* — Flower-heads capitate; flowers tubular, five-toothed. Florets of the ray few, large, bright blue, infundibuliform, neuter; florets of the disk, small, dark purple, fertile. Stamens five, inserted on corolla. Filaments distinct, anthers united. Ovary adherent to calyx. Style single, sheathed by anthers. Stigma bifid. Fruit an achene, with simple pappus. Seed solitary. Involucre covered with imbricated brown scales. Leaves alternate, long dull green; lower

ones often toothed at base, upper ones entire and linear. Stem slender, freely branching, wiry, striate, covered with a loose cotton-like down. Root fibrous.—Cornfields, and in field crops. June, July August. Annual.

COW-WHEAT, *MELAMPYRUM PRATENSE. Nat. Ord., Scrophulariaceæ.*—Calyx four-toothed, tubular, persistent; much shorter than corolla. Corolla monopetalous, irregular, deciduous; upper lip laterally compressed; lower lip thrice-cleft. Flowers axillary, in pairs, turned one way. Stamens four, didynamous. Anthers obtuse. Style one. Stigma two-lobed. Capsule two-celled, oblong. Leaves lanceolate, opposite, sessile. Bracts in pairs, toothed at base. Stem slender, with opposite and spreading branches.—Woods. May, June, July, August. Annual.

ORPINE, *SEDUM TELEPHIUM. Nat. Ord., Crassulaceæ.*—Calyx minute, fleshy, five pointed segments. Corolla regular, of five lanceolate acutely-pointed, pink, flat, widely-extended petals. Stamens ten; anthers conspicuous. Inflorescence corymbose, dense, terminal. Ovaries five, verticillate, one-celled. Leaves numerous, upright, sessile, ovate, serrate, smooth, fleshy. Stalks numerous, erect, clustered, unbranched, round, solid, spotted with red.—Borders of fields, waste places, hedge-banks. July, August. Perennial.

MEADOW SAXIFRAGE, *SAXIFRAGA GRANULATA. Nat. Ord., Saxifragaceæ.*—Calyx of five teeth, spreading. Petals five, pure white, spreading, lanceolate. Stamens ten, inserted at base of calyx. Styles two. Inflorescence paniculate. Ovary two-celled. Capsule two-celled, beaked, many-seeded. Leaves exstipulate; lower leaves on foot-stalks, reniform, lobed; upper leaves sessile or nearly so, acutely-lobed, small and few in number. Stem erect, with clustering subterranean tubers at base.—Pastures and downs. May, June. Perennial.

FIELD SCABIOUS, *KNAUTIA ARVENSIS. Nat. Ord., Dipsaceæ.*—Flowers in dense and flattened heads, on long peduncles. Calyx tube adnate with ovary. Calyx of five bristly sepals, and cup-shaped base. Outer florets large, unequal; inner florets having equal segments, all lilac, and all four-lobed. Receptacle hairy. Style one.

Fruit dry, indehiscent, angular. Radical leaves, large, lanceolate, serrate, coarse-looking, hairy. Stem-leaves opposite, small, sessile, slightly lobed, variable in form.—Pastures and banks. June, July, August. Perennial.

STONE-CROP or **WALL-PEPPER,** *SEDUM ACRE. Nat. Ord., Crassulaceæ.*—Calyx of five ovate, oblong, obtuse sepals, gibbous at base. Corolla regular, of five golden yellow, lanceolate, acuminate, spreading petals. Stamens ten. Ovaries five, glabrous, verticillate, with nectareous scale beneath, and subulate style. Stigma simple. Fruit of five carpels. Leaves alternate, erect, ovate, gibbous, fleshy, smooth, bright green, acrid, and on the barren shoots closely imbricated in rows. Inflorescence terminal, cymose. Stems ascending, succulent, branched. Root creeping and fibrous. Walls and rocks. June, July. Perennial.

TUBEROUS PEA, *OROBUS TUBEROSUS. Nat. Ord., Leguminosæ.*—Calyx five-toothed, obtuse at base, oblique at mouth. Corolla papilionaceous, purple, veined. Style linear. Stigma one. Stamens ten, diadelphous. Legume two-valved, several-seeded, long, pendulous, black, cylindrical. Leaves pinnate, without tendrils, stipulate, three or four pairs of leaflets. Stipules sagittate. Flowers in axillary racemes, borne on long peduncles. Stem winged. Root tuberous. —Woods and copses. May, June, July. Perennial.

CORN MARIGOLD, *CHRYSANTHEMUM SEGETUM. Nat. Ord., Compositæ.*—Calyx adherent, with ovary. Ray-florets, conspicuously ligulate. Involucre hemispherical, having imbricated and membranaceous scales. Stamens five; anthers syngenesious. Ovary one. Style one, sheathed by anther-tube, bifid at apex. Stigmas extended on each branch of style. Flower-heads large, on terminal peduncles. Fruit an achene; disk achenes terete. Receptacle without scales. Pappus wanting. Leaves amplexicaul, alternate, glaucous, lobed or serrate, varying in form considerably according to position. Stems branching freely.—Cornfields. June, July, August, September, October. Annual.

SELF-HEAL, *PRUNELLA VULGARIS. Nat. Ord., Labiatæ.*—Calyx tubular, ovate, closed on fruit; upper lip three-toothed; lower one

two-toothed. Corolla monopetalous, hypogynous, irregular; upper, lip nearly entire, and arched; lower one three-lobed. Stamens four, ascending, parallel; filaments divided into two near their summits, and one only bearing anther. Ovary one, four-lobed. Style arising from between the lobes, bifid. Stigma two-lobed. Achenes four, within calyx, a solitary seed in each. Flowers in dense whorls, bractate. Leaves opposite, stalked, ovate, ordinarily entire. Stem square.—Moist pastures. July, August. Perennial.

CHARLOCK, *SINAPIS ARVENSIS. Nat. Ord., Cruciferæ.*—Calyx of four linear, spreading, blunt, and hairy sepals. Corolla of four obcordate, clawed, spreading, yellow petals. Stamens six, two being shorter than the others; filaments yellow, tapering. Stigma capitate. Seed-vessel a two-valved, glabrous, many-seeded, and beaked pod. Leaves on foot-stalks, spreading, alternate, rough, serrate; upper ones ovate-lanceolate; lower ones lobed at base. Stem upright, branched, round, solid, hispid. Root simple, fibrous.—Cornfields and amongst crops. May, June, July. Annual.

SMALL WILLOW-HERB, *EPILOBIUM MONTANUM. Nat. Ord., Onagraceæ.*—Calyx-tube adnate with ovary, deciduous, limb divided nearly to base. Corolla of four petals, regular, pink, deeply notched. Stamens eight, inserted in calyx, erect. Style filiform. Stigma four-lobed. Capsule slender, four-celled, four-valved, many-seeded; seeds tufted. Leaves on short stalks, ovate, toothed, glabrous. Stem erect, simple, or very slightly branched.—Banks, roofs, and walls. June, July. Perennial.

FEVERFEW, *MATRICARIA PARTHENIUM. Nat. Ord., Compositæ*—Flower-heads pedunculate, inflorescence corymbose and terminal. Involucre hemispherical, scales membranous, imbricated, villous. Disk-florets tubular, numerous, perfect, yellow, five-toothed. Ray-florets pistilliferous, white. Stamens five; filaments very short; anthers forming a tube. Ovary angular. Style short, filiform. Stigma bifid, spreading. Fruit an achene, angular, furrowed, crowned with toothed disk. Leaves petiolate, alternate, light green, bi-pinnate, segments ovate. Stem erect, smooth, branched. Root thick, branch-

ing, with numerous fibrous tufts.—Waste places, hedgerows. July, August, September. Perennial.

THRIFT, *ARMERIA MARITIMA. Nat. Ord., Plumbaginaceæ.*—Calyx tubular, dry, membranous, teeth short. Corolla regular, of five petals, united at base. Ovary single, one-celled. Stamens inserted on corolla. Styles five, hairy. Stigmas five, filiform. Flowers in dense terminal, globular heads, with bracts, and inverted sheath clothing upper portion of scape. Capsule one-seeded. Leaves long and linear, radical, numerous, one-nerved.—Salt marshes. April, May, June, July, August. Perennial.

BLADDER CAMPION, *SILENE INFLATA. Nat. Ord., Caryophyllaceæ.*—Calyx tubular, monophyllous, five-toothed, persistent, inflated, reticulated. Corolla of five petals, clawed, deeply cleft, white. Stamens ten. Ovary one. Styles three. Inflorescence paniculate, flowers slightly drooping. Capsule three-celled, many-seeded, dry, six-toothed, opening at top. Leaves opposite, entire, exstipulate, ovate-lanceolate, glaucous. Stems tumid and fragile at joints, erect, glaucous, glabrous.—Roadsides, hedgerows, meadows. June, July, August. Perennial.

LESSER RED-RATTLE, *PEDICULARIS SYLVATICA. Nat. Ord., Scrophulariaceæ.*—Calyx angular, glabrous, persistent, inflated, teeth foliaceous, segments five, unequal. Corolla monopetalous, irregular, deciduous, ringent, open at throat; upper lip compressed and arched; lower one flat and three-lobed. Stamens four, didynamous, two of them hairy. Style one. Stigma two-lobed. Capsule two-celled, compressed; seeds angular. Leaves, alternate, pinnate, deeply serrated. Stem branched and spreading.—Moist pasturage and waysides. April, May, June, July. Perennial.

WATER FIG-WORT, *SCROPHULARIA AQUATICA. Nat. Ord., Scrophulariaceæ.*—Calyx persistent, five-lobed. Sepals having membranous margin. Corolla monopetalous, irregular, deciduous, globose; two short lips, one two-lobed and straight, the other three-lobed, and having central lobe decurved, dull purple. Stamens four, didynamous. Style one. Stigma two-lobed. Flowers in terminal and long panicles.

Capsule two-celled, two-valved. Leaves glabrous, opposite, cordate-oblong, obtuse, crenate; bracts small and linear. Stem erect, winged —By the sides of watercourses. June, July, August, September. Perennial.

SAINFOIN, *ONOBRYCHIS SATIVA. Nat. Ord., Leguminosæ.*— Calyx five-toothed, the teeth long and slender. Corolla of five petals, papilionaceous, wings short. Stamens ten, diadelphous. Inflorescence racemose, on long axillary peduncles. Ovary one-celled. Style and stigma one. Legume two-valved, indehiscent, sessile, toothed on inner margin, coriaceous, flattened, one-seeded. Leaves stipulate, alternate, pinnate, without tendrils, glabrous; numerous leaflets. stipules small, finely-pointed. — Open down-land and chalk slopes. June, July. Perennial.

RAG-WORT, *NECIO JACOBŒA. Nat. Ord., Compositæ.*— Calyx adherent with ovary. Florets all perfect. Involucre having one row of equal scales, and a few smaller ones at base. Stamens five. Anthers syngenesious, ecaudate. Ovary one. Style one, sheathed by anther-tube, bifid at apex. Stigmas on inner surface of the two branches of style. Receptacle naked. Heads of flowers in corymbs. Fruit an achene, terete, pappus, pilose. Leaves pinnate or pinnatifid, lyrate, very variable in form and size, segments toothed, glabrous. Stems erect, striate, branched near the summit.—Roadsides, waste ground, neglected meadows. July, August, September. Perennial.

CENTAURY, *ERYTHRÆA CENTAURIUM. Nat. Ord., Gentianaceæ.*—Calyx five-cleft, half as long as tube of corolla, persistent, segments linear. Corolla regular, infundibuliform, pink, limb five-cleft, spreading, stellate. Stamens five. Anthers twisted. Stigmas two. Inflorescence paniculate. Capsule linear, two-celled. Stem-leaves opposite, exstipulate, ovate, oblong. Root-leaves spreading, broader than those of the stem. Stem erect, nearly simple, glabrous. Whole plant bitter to taste.—Dry pastures. June, July, August, September. Annual.

CROSS-WORT, *GALIUM CRUCIATUM. Nat. Ord., Rubiaceæ.*— Calyx adherent with ovary. Corolla regular, yellow, small, rotate,

four-cleft. Flowers polygamous, the fertile flowers sometimes five-cleft, in small axillary corymbs. Stamens four, inserted on corolla. Style one, bi-partite. Ovary one. Stigmas two, capitate. Fruit, dry, a two-lobed pericarp, indehiscent. Stems erect, hairy, square, herbaceous, slender. Leaves four in a ring, ovate, hairy on both sides. —Hedges, banks, and copses. April, May. Perennial.

KNOT-GRASS, *POLYGONUM AVICULARE. Nat. Ord, Polygonaceæ.*—Perianth five-partite, single, coloured, persistent. Stamens inserted into base of perianth. Ovary superior, with three styles. Stigmas entire. Flowers axillary. Achene wingless, triquetrous, striate. Leaves with sheathing, two-lobed, scarious, stipules, lanceolate, alternate, entire. Stem jointed and branched, herbaceous, often prostrate; very variable in appearance.—Waste ground and rubbish-heaps. May, June, July, August, September. Annual.

MEADOW SAFFRON, *COLCHICUM AUTUMNALE. Nat. Ord., Melanthaceæ.*—Perianth tubular, rising from a spathe, petaloid, pale purple, six-partite at summit, tube very long and attenuated. Stamens six, perigynous. Ovary with three cells, many-seeded. Styles three, thread-like, very long. Capsule three-valved. Leaves linear-lanceolate, parallel-veined, sheathed at base, radical, eight or ten inches long. Root bulbous. The leaves and fruit are developed in the spring, and die away before the flowers appear.—Meadows and hedgerows. August, September, October. Perennial.

FOOL'S PARSLEY, *ÆTHUSA CYNAPIUM. Nat. Ord., Umbelliferæ.*—Calyx adherent with ovary, five minute teeth. Corolla white, of five unequal petals, the outer ones the largest; petals obcordate, with inflected points. Stamens five, inserted on fleshy disk. Styles two, short. Flowers in terminal umbels of about twelve equal rays; involucre wanting; partial involucre unilateral, of three linear, conspicuous, pendant leaves. Achenes two, combined, ovate or globose. Leaves numerous, alternate, sheathing the stem, compound, glossy giving unpleasant odour when bruised.—Fields, gardens, waste ground, and rubbish-heaps. July, August. Annual.

BOG ASPHODEL, *NARTHECIUM OSSIFRAGUM. Nat. Ord., Juncaceæ.*—Perianth of six sepals, persistent, spreading, lanceolate,

pointed, green below and yellow above. Stamens six, having their filaments thickly clothed with a white wool, inserted in base of perianth. Stigma entire. Capsule three-celled, three-valved; seeds numerous. Leaves linear, radical, parallel-veined, much shorter than stems, sheathing at base. Pedicels with numerous bracts, stiff, erect, bearing terminal racemes of flowers.—Bogs and moorlands. July, August. Perennial.

WOODRUFF, *ASPERULA ODORATA. Nat. Ord., Rubiaceæ.*—Calyx adherent with ovary. Corolla regular, fugacious, infundibuliform, pure white, four-cleft. Style one. Stamens four. Ovary one. Inflorescence paniculate. Fruit dry, globular. Leaves about eight in a whorl, lanceolate, entire. Stem erect. The whole plant very fragrant when dried.—Woods and copses. May, June. Perennial.

KIDNEY VETCH, *ANTHYLLIS VULNERARIA. Nat. Ord., Leguminosæ.*—Calyx five-toothed, inflated, downy, contracted at mouth. Corolla papilionaceous. Heads of flowers in pairs at end of stems; the flowers numerous and sessile. Stamens ten, monadelphous. Ovary one-celled. Style and stigma one. Legume two-valved, oval, few-seeded, enclosed in calyx. Leaves alternate, stipulate, pinnate. Bracts large and palmate. Whole plant covered with soft hair.—Dry pastures and embankments. June, July, August. Perennial.

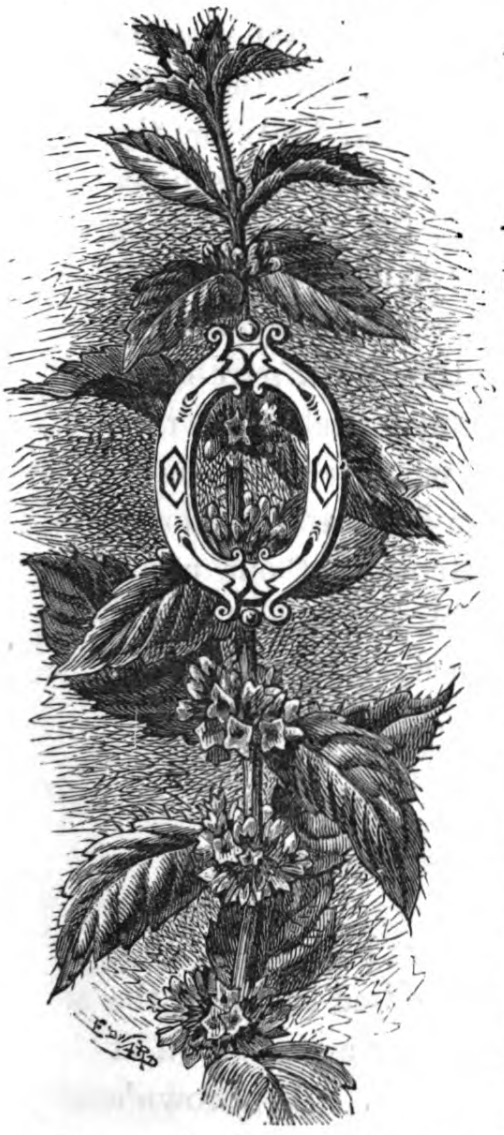
FUMITORY, *FUMARIA OFFICINALIS. Nat. Ord., Fumariaceæ.*—Sepals two, deciduous, small and scale-like, ovate-lanceolate, acute, toothed. Corolla irregular, tubular, of four more or less united petals, one spurred at base. Stamens six, diadelphous, hypogynous. Style filiform. Stigma lobed. Inflorescence racemose. Fruit globose, one-seeded, dry, indehiscent. Stems weak and brittle, glabrous, pale green. Leaves much divided, glabrous, delicate, having twisted petioles.—Roadsides, gardens, amongst field crops. Flowering all the summer. Annual.

BROOM RAPE, *OROBANCHE MAJOR. Nat. Ord., Orobanchaceæ.* Calyx of two or four lanceolate segments, bifid, variously divided. ferruginous, persistent, bract at base. Corolla monopetalous, irre-

gular, ringent, purplish, tube bending downwards, convex; upper lip trifid and curved; lower lip trifid, middle segment the longest. Stamens four, hid under lip, two longer than the others. Style one, downy, purplish, bent downwards. Stigma two-lobed, obtuse. Ovary on a fleshy disk. Seed-vessel a capsule, ovate, oblong, two-valves. Seeds numerous, small, linear, attached to sides of capsule. Inflorescence spicate. Stalk upright, simple, hollow, roundish, channeled, villous, bulbous at base, clothed with dry scales.—Parasitic on leguminous plants. May, June, July. Perennial.

CORN MINT.

FAMILIAR WILD FLOWERS.



THE CORN-MINT.

Mentha arvensis. Nat. Ord., Labiatæ.

OUR readers will have little difficulty in finding the plant here figured, as it is abundantly distributed throughout Britain, though, like many plants, it is less commonly met with as we travel northward. It should be looked for in fields and moist ground. Its flowering season is August and September. Like all the other native species of mint, it varies very considerably in appearance in different plants, some being much larger than others, with a more developed foliage, and a much greater hairiness of all the parts. All the species have a strong odour, that becomes more decided still when the leaves are bruised in any way. The corn-

mint is a perennial, and in this, as in all the mints, the root-stock creeps freely, so that when the plant has once taken hold of the ground it becomes very difficult to eradicate it. From the low spreading branches that lie near the ground, the flowering stems are each year thrown up. The leaves are borne on stalks, and have their outlines freely toothed. Like the other labiates, the stems are seen to be four-angled when cut across, and the leaves spring from them in pairs. This quadrangular section and opposite growth of the foliage may be very well seen in the white dead-nettle, the ground-ivy, and the self-heal, or the stachys, all plants that figure in our series. The upper leaves in the corn-mint are smaller than the lower, and the flowers are arranged in rings in their axils. The flowers themselves are small individually, but the delicacy of their colour and the dense clusters in which they grow give them collectively an importance the units may lack, and ring after ring of these blossoms form as a whole a conspicuous and welcome addition to the flora of the fields and meadows, and one that has not escaped the attention of our poets. Peele, one of the older writers, a poet of the middle of the sixteenth century, has the following lines :—

> "Under the hawthorn and the poplar tree,
> The humble florets all delight to be;
> The primrose and the purple hyacinth,
> The dainty violet and the wholesome minthe."

The mint is by many of the older herbalists spelt "minthe," or we should feel that the recognised licence of the poet had been rather exceeded when mint by a perversion of spelling was made to rhyme with hyacinth. In Brown's "Pastorals" we are invited to wander "into the meadows

where mint perfumes the gentle air." The garden mint is referred to by Clare:—

> "And where the marjoram once, and sage and rue,
> And balm and mint, with curled-leaf parsley grew,
> And double marigolds and silver thyme,
> And pumpkins 'neath the window used to climb."

There is, we fear, little doubt but that practical agriculturists consider the corn-mint a nuisance, as its long creeping roots bind the soil together, and ultimately overrun a considerable area. It is generally an indication that the drainage of the land has been neglected.

Gerarde says, "The smell of mint doth stir up the minde and the taste to a greedy desire of meate;" and hence, we may perhaps conclude, the wisdom of the custom handed down to us from our ancestors of having mint-sauce with our lamb, though such an addition we prefer to consider rather in the nature of a relish than as a deliberate stimulus to greedy desire. Even in Roman times the mint entered into matters culinary. Another use of it, we are told, is to frighten mice from the dwelling. It is said, with what truth we know not, that these little depredators are so averse to the odour of mint that they rather vacate the premises than endure it. The name *Mentha* was originally applied to the mint by Theophrastus. Menthe, we learn from Ovid, was a nymph who was metamorphosed by Proserpine into the herb we now call mint. The specific title refers to the locality where the plant is found. In Wales it is the *Mintys ar-dir*.

The various species of mint have much in common, and have all been held in high medical repute. Westmacott, a doctor of medicine, who wrote a little book on plants in the year 1694, mentions the various sorts, and states that they

are very well known to "the young Botanists and Herb Women belonging to Apothecarys' Shops." We may mention, by the way, that Westmacott is very fond of capital letters, a fact that will duly appear as we proceed with our quotation. "Mints have a biting, aromatick, bitterish Sapor, with a strong fragrant Smell, abounding with a pungent Volatile Salt, and a Subtil Sulphur which destroyeth Acids. And herein doth lodge the Causation of such Medicinal Virtues in this Herb and others of the like Nature. In the Shops are—1. The dry Herbs. 2ndly. Mint Water. 3rdly. Spirit of Mints. 4th. Syrup of Mints. 5th. The Conserve of the Leaves. 6th. The Simple Oyl. 7th. The Chimical Oyl." Dodonæus says that "the sauour of sent of Mynte reioyceth man, wherefore they sow and strow the wild Mynte in this countrie in places whereas feastes are kept, and in Churches. The iuyce of Mynte mingled with honied water cureth the payne of the eares when dropped therein, and taketh away the asperitie and roughness of the tongue when it is rubbed or washed therewith."

ANEMONE

THE ANEMONE.

Anemone nemorosa. Nat. Ord., Ranunculaceæ.

AS the winds of March sweep through the copse and along the hedgerows, the delicate anemones or wind-flowers expand their blossoms to the breeze; and the older writers associated the March winds with the opening flowers, and made the one dependent on the other. "The coy anemone, that ne'er uncloses her leaves until they're blown on by the wind," derives even its name, which is Greek in its origin, from this fabled association with the breezes, for Pliny says that it was so called because it never opened its blossoms but when the wind was blowing. Culpepper, we see, speaks also of the anemone as "called wind-flower, because they say the flowers never open but when the wind bloweth. Pliny is my author; if it be not so, blame him." Culpepper's language, we may mention, is often more expressive than polite, and he

has immense faith in himself. In his chapter on the present plant, for instance, he strongly advises the roots of the anemone to be chewed in the mouth, as "it purgeth the head mightily, and is, therefore, good for the lethargy. And, when all is done, let physicians prate what they please, all the pills in the dispensary purge not the head like to hot things held in the mouth."

The anemone is one of our most graceful wild plants, its fresh green leaves and snow-white blossoms rendering it a fit companion for the purple hyacinth, the nestling, sulphur-tinted primrose, or the golden stars of the little celandine. Men of science retain the old name because they say its flowers appear so fragile as they resist the keen winds of March, but the poets naturally side with the old myth; they more often call it the wind-flower. Bloomfield, for example, writes:—

"Now daisies blush, and wind-flowers fill with dew;"

and in Bryant's fine poem on the Autumn, we find the following lines:—

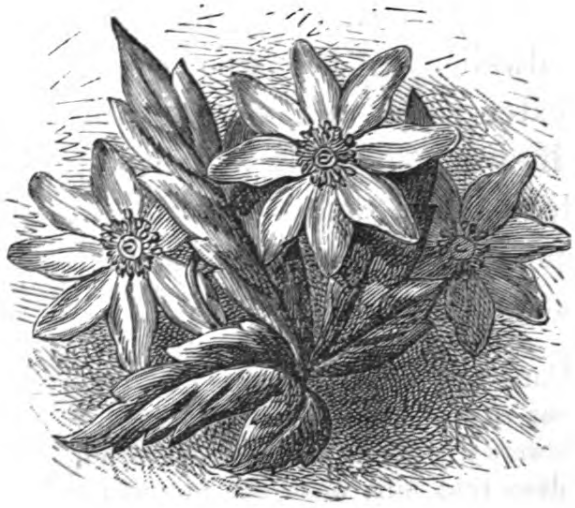
"The wind-flower and the violet, they perished long ago,
And the briar rose and the orchis died amid the summer's glow."

The wood-anemone is seen early in the spring, the copses, woods, and sheltered hedgerows being whitened with its countless blossoms. In fine, clear weather, the flowers are fully expanded and face the sun; but when its vivifying rays are withdrawn at the approach of evening, or overcast by the rain-cloud, the flowers close and hang down, thus preserving the inner delicate parts from injury, and serving as a very good natural barometer at the free service of those who wander "where, thickly strewed in woodland bowers, anemones their stars unfold."

Despite the poetry attaching to the plant, it shares fully in the acrid and bitter nature of almost all the plants in the order Ranunculaceæ, an order containing the deadly wolf's-bane or monk's-hood, the hellebore, and the fiery and blistering buttercups; and we should certainly ourselves hesitate to resort to the remedy of chewing its root. The specific name of the anemone is *nemorosa*. The student who translated *hors de combat* as war-horse, would probably tell us that this means that the plant has nothing of the rose about it; but other authorities, and those too of more weight, point us to the Latin word for woody. The *Anemone nemorosa*, though much the commonest of all our English species, is sometimes more definitely specified for the sake of distinction as the wood-anemone, while in Wales it is the "frithogen y goedwig," and in Ireland the "nead coilleah." Some few of the old herbalists call the anemone the wood-crowfoot, because its leaves resemble in shape those of some species of crowfoot. The name is, however, an unfortunate one, as amongst the crowfoot or buttercup family there is one, the *Ranunculus auricomus*, a plant we have already figured, and a dweller in the woods and copses, that has a much greater right and prior claim to the name. The anemone, if we may believe the stories of the old Greek poets, had a most romantic origin, being fabled to have sprung from the tears shed by Venus over the dead Adonis:—

"Alas the Paphian! fair Adonis slain!
Tears plenteous as his blood she pours amain.
But gentle flowers are born, and bloom around,
From every drop that falls upon the ground:
Where streams his blood, there blushing springs the rose;
And where a tear has dropped, a wind-flower blows."

Besides the wood-anemone we have the *A. pulsatilla*, or Pasque-flower, so-called from its flowering about the Paschal season or Easter. It may be found occasionally on open chalk downs, but it is by no means common. Its flowers are large, violet-purple in colour, and very handsome. Besides these two we occasionally find the blue mountain-anemone, or *A. apennina*, and the yellow wood-anemone, or *A. ranunculoides;* but neither of these can claim to be truly indigenous, though they have at times strayed from cultivation and established themselves in our woods. The first of the two has large and pale lilac-blue flowers, and when growing in masses has a very beautiful effect; the second we do not remember to have ever seen. The numerous varieties of anemone grown in our gardens owe their origin to south and east European species more or less transformed by cultivation and the florist's art.



SAW WORT

THE SAW-WORT.

Serratula tinctoria. Nat. Ord., Compositæ.

NOT so striking perhaps in appearance as many plants of the order, the saw-wort is not nevertheless without a certain beauty of its own, in its slender growth and small fan-like flower-heads; and it gains an additional interest when we remember that before the days of aniline dyes and all the products that an extended commerce brings to our shores from all over the world, the saw-wort was one of the tinctorial plants of our forefathers. It was used by dyers to give a yellow colour to woollen stuffs, and was fixed with alum, but as it was inferior to the *weld*, or yellow-weed, the *Reseda luteola* of the botanist, its use was confined to the coarser goods.

The saw-wort belongs to the tribe of *Cynarocephalæ*. The order in which it is included is so extensive, that it has been found desirable to divide it into sub-orders

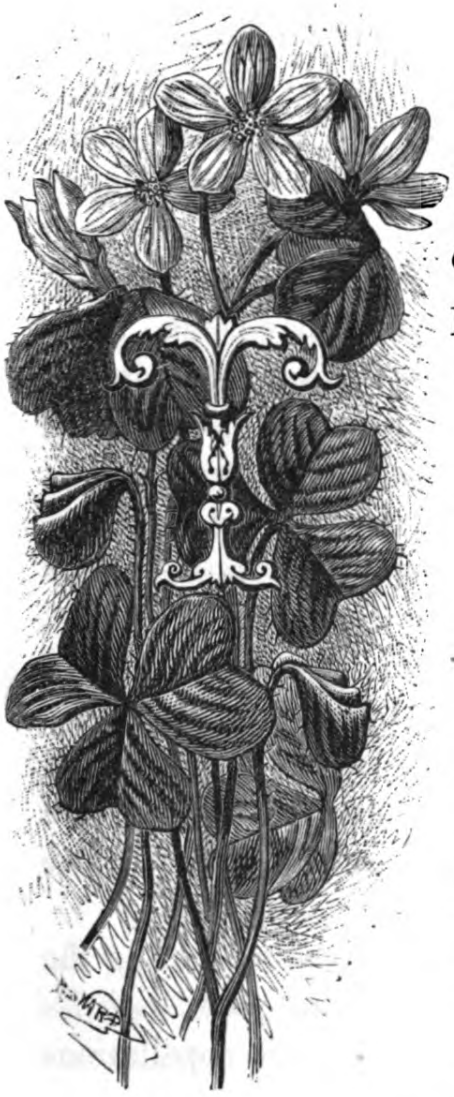
or tribes, and these are three in number: the *Chicoraceæ*, the *Cynarocephalæ*, and the *Corymbiferæ*. Without going at too great a length into dry and formal botanical details, we may be able to give an idea of the peculiarities of each, as the knowledge, once gained, will enable our readers themselves to assign to their proper tribe any composite plants which they may find. In the first tribe all the florets of the flower-head are ligulate and perfect. Ligulate is a term that refers to the form of the flower; it is derived from the Latin *ligula*, a little tongue. If we examine any flower-head of this tribe, we shall find that each floret has its corolla on one side produced into a broad tongue, or strap-like portion, and this, as in the dandelion, forms by far the most conspicuous portion of the whole arrangement. At a cursory glance all small details of structure are lost, but we can at once give a good idea of a dandelion by drawing a number of these radiating strap-like forms. The term "perfect" signifies that every floret is provided with both pistil and pollen-bearing anthers. The sow-thistle, the dandelion, the hawkweed, and the chicory are all good examples of this tribe of composites, and have all appeared amongst our illustrations. The second tribe, that to which the saw-wort belongs, has all the florets in each flower-head tubular instead of ligulate, and all are perfect in some of the species, or the inner ones are perfect and the outer ones neuter in others. The various kinds of thistles and knapweeds and the brilliant cornflower are all good illustrations of this tribe. The third tribe is a very extensive one, and, at first sight, less recognisable than the other two. The greater number of the species which compose it have radiate flowers—such, for example, as the ox-eye or the daisy—and then they are readily distinguish-

able. All the florets in the same head are perfect, and similar in form, or else those of the circumference are filiform, tubular, or ligulate. If our readers will gather a good selection of composite flowers, they will have no difficulty in sorting them into the three tribes, as the first and second are each very distinct from the third, and from each other, and all that do not fall naturally into tribes one or two, must of necessity go to number three. The milfoil, the daisy, the tansy, the coltsfoot, the ragwort, the leopard's-bane, the flea-bane, the feverfew, and the corn-marigold are all characteristic plants of the third great tribe of the composites, and may all be found represented amongst our illustrations.

The general habit and appearance of the saw-wort, when we see it growing, suggest its near relationship to the thistles, but it has not the formidable prickles with which those are armed. The general growth is stiff and erect, and the leading stems spring direct from the root, and are only slightly branched ; such branching as there is preserves the general upward direction. The plant is ordinarily from two to three feet high. The saw-wort is a perennial, and its blossoms appear about August. It should be looked for in open woods and thickets. It is fairly distributed throughout England and Wales, but does not appear to be indigenous either to Scotland or Ireland. The lower leaves of the plant are pinnate, each of the four or five pairs of lateral segments being acutely pointed, and the terminal member larger than the others. The upper leaves are either simple in form, or with one or two pairs of lobes at their base. All the leaves, no matter what their position on the plant, have their outlines finely toothed, hence the generic name *Serratula*, a name derived

from the Latin *serrula*, a little saw; notwithstanding this it has occasionally been found with its foliage entirely free from these serrations. The flower-heads cluster on the ends of the flowering stems. Some, it will be seen, are rather larger and stouter-looking than the others. The plant is what is termed botanically *diœcious*, and if we open some of the heads we shall find that all the florets have stamens alone, while other heads on the same plant have pistils alone. The florets are normally purple, but, like many other purple flowers, and particularly purple composites, they vary occasionally to white. The involucre, or flask-like portion within which the florets are contained, is covered by numerous small and tightly-adherent bracts, the outer ones being often more or less coloured towards their tips. They are at times smooth to the touch, and at others we find a slight cobweb-like down on them. The specific name *tinctoria*, Latin in its origin, refers to its use in dyeing.

WOOD - SORREL



THE WOOD SORREL.

Oxalis acetosella. Nat. Ord., Oxalidaceæ.

THE subject of our present illustration is one of the typical flowers of the woods, and is so freely distributed that our readers should have little or no difficulty in finding specimens for themselves. It may also be found in mountain districts sheltering in crevices of the rocks. It flowers during April and May. The love of the plant for damp and shade naturally makes it a dweller in the woods, its most typical *habitat*, and those who would transfer it to their gardens must not fail to observe these essential conditions of success. We have seen the plant grow in a Wardian case, its delicate beauty rendering it a very acceptable addition.

The root-stock of the wood-sorrel is perennial, creeping, and covered with bright red scales, and from this all the leaves at once ascend. These leaves are borne on long and slender stalks, and each leaf is composed of three heart-shaped leaflets, a delicate yellowish green on the upper

surface, and ordinarily a rather dark purple beneath. These leaflets droop at night or on the approach of wet weather. The flowers are pure white and delicately streaked with purplish-pink veins. Curtis, in his "Flora Londinensis," says, "It is said to vary with bluish and purple-coloured blossoms," while Gerarde mentions some pink specimens that had been sent to him, but such variations from the type are very rarely encountered. Each flower consists of five equal and similar petals, forming at their period of fullest expansion a deeply cup-like corolla. The sepals, too, are five in number, small, and bluntly terminated. The ten stamens are arranged in two rings, the five opposite the petals being larger than the other and alternating five. The flowers are more or less pendulous on the light flower-stalks that support them. These flower-stalks are about the same length as those of the leaves, and each carries a single blossom; about half-way up two small bracts will be noticed on each stem. When the seed-vessels are ripe, a gentle pressure will cause them to open at their angles, and discharge their seeds to some considerable distance.

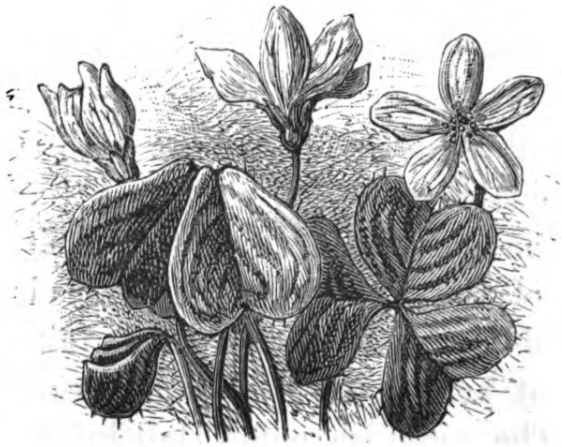
A very agreeable acid flavour is perceived on tasting the leaves, and it is to this feature that the plant owes both its commonest name and its generic and specific appellations Sorrel is derived from the same root as the word sour, and in France the plant from the same reason is the *surelle*, while the generic name *oxalis* is Greek in its origin, and signifies the same thing, sour or acid. *Acetosella* is from the Latin *acetum*, vinegar. The plant is by some of the older writers called wood-sour or sour-trefoil. The essential salt, oxalic acid, extracted from it by crystallisation, is largely employed in taking out iron-mould and ink

spots from linen, twenty pounds of sorrel-leaves yielding between two and three ounces of the salt. A conserve of the leaves was also for a long time a very favourite remedy in malignant fevers, in scurvy, and in all ailments suggesting the use of a cooling and acid drink. Gerarde recommends it highly as making a "better greene sauce than any other herbe whatsoever," and also in that it "cooleth mightily an hot pestilentiall fever, especially being made in a syrrup with sugar."

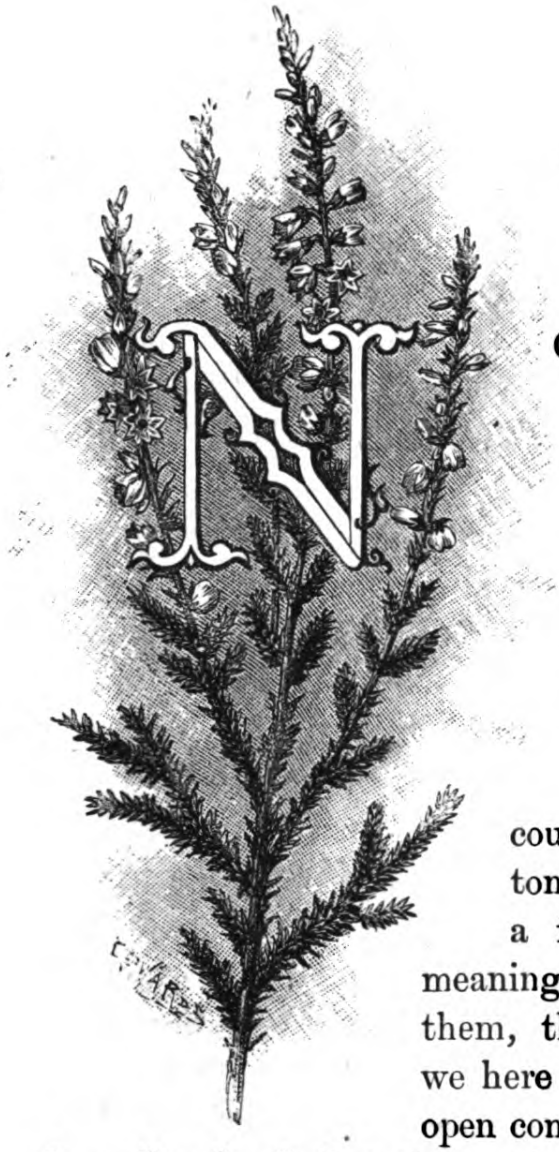
The wood-sorrel bears many other names. It is with some old herbalists the three-leaved grass, grass being a very general term indeed in mediæval days. It is also the cuckoo-sorrel, *panis cuculi*, or "cuckow's meate," from an old belief that the bird in question cleared his voice by its agency. In Scotland it is gowke-meat, in Wales *suran y coed gyffredin*, and in Ireland the *seamsog*. We have already given one French name for it: a second is *pain du coucou*. In Italy it is the *Iuliola*. A very common English name for the wood-sorrel, though it is rarely used now, is the stub-wort, the plant growing abundantly amongst the "stubs" and roots of trees, and so getting its name. Another familiar mediæval name was the Hallelujah. Many of our readers will no doubt be familiar with the legend that St. Patrick, unable to make his savage auditory at all comprehend the doctrine of a Triune Deity, saw at his feet the leaf of the wood-sorrel, and made its familiar form a symbol of the truth he would fain impress upon them, and that henceforth the plant became dedicated to that saint. The monkish name Hallelujah would appear, however, to have been no song of joy and victory over converted pagans; it has been suggested that it derived

its force rather from the fact that the wood-sorrel was blossoming between Easter and Whitsuntide, when the psalms of rejoicing were sung. The plant occurs not uncommonly in old ecclesiastical decorations; there is a very good glass quarry, based on its drooping leaves and buds, in King's College, Cambridge; and Fra Angelico and other early painters introduced it. "The triple leaf of this plant and white flower stained purple probably gave it strange typical interest among the Christian painters."* Considerable diversity of opinion exists as to what plant may be deemed the true shamrock of Erin. Into the various arguments for and against the clover, the present plant, and others, we have not here space to go, but the balance would appear to be in favour of the present plant. It is in full flower on the 17th of March (St. Patrick's Day), and in a book written about 1603 we find the passage, "They willingly eat the herb shamrock, being of a sharp taste."

* Ruskin.



HEATH OR LING.



HEATH OR LING.

Calluna vulgaris. *Nat. Ord.,* *Ericaceæ.*

NOT perhaps so attractive as the heather, *Erica cinerea*, already figured by us, the present species is even more abundant, and this, too, although the heather is found everywhere on our northern moorland tracts and the great commons and wastes in the southern counties. We get so accustomed to using words without a full consideration of their meanings, and what is involved in them, that we may be forgiven if we here point out that these great open commons are often called heaths from the simple fact that various species of heath form their most characteristic covering and adornment, and a vast purple expanse of heath in the sunlight is one of the most delightful pictures on which the eye can gaze. Though we naturally associate the idea of the heath with a wide and breezy expanse, the soil on which it grows is often suitable for tree-planting. In an essay, entitled, "Wild Plants

a Guide to Soils," we find the heath thus referred to:— "When it is rank and strong-growing, it indicates deep, black, mossy soil, poor, and naturally unfertile, but which, if dry, and the altitude be not too great, will grow Scotch fir and birch; if wet, Scotch fir, spruce, and alder. If the heath be close and healthy, and mixed with moss, tormentil, and grasses, the soil is more fertile." Many of our poets refer to the beauty of the heath, its effect in the landscape, and its uses of various kinds. It is impossible to quote to any large extent; but any one who will turn to the writings of the two great Scotchmen, Burns and Scott, will find abundant references.

> "Of this, old Scotia's hardy mountaineers
> Their rustic couches form, and there enjoy
> Sleep, which beneath his velvet canopy
> Luxurious idleness implores in vain."

The heath is applied to many useful purposes. Houses are roofed with it instead of with thatch. In Scotland a strong decoction of it is used in tanning leather, and a very refreshing drink is made by brewing together two parts of heath-top to one of malt. The heath plant, too, is a good deal used for making brooms, and for heating ovens, while the turf, full of its fibrous and matted roots, and with the plants still on it, is cut up, dried, and used as fuel by many a poor cottager. Woven into a wooden framework it makes a protective fencing. Neither horses nor cattle seem to care for it, but in some parts of the country the old heath is from time to time fired, as sheep enjoy the tender shoots that afterwards spring up. This custom is referred to in "Marmion." Its close and sheltering masses form a home for many a wild animal, and birds and other small creatures find a meal as well as a refuge in its umbrageous

depths. Grouse thrive on it, for example, and several species of lepidoptera have the heath as the food-plant of their caterpillars. Mary Howitt writes in one of her poems of

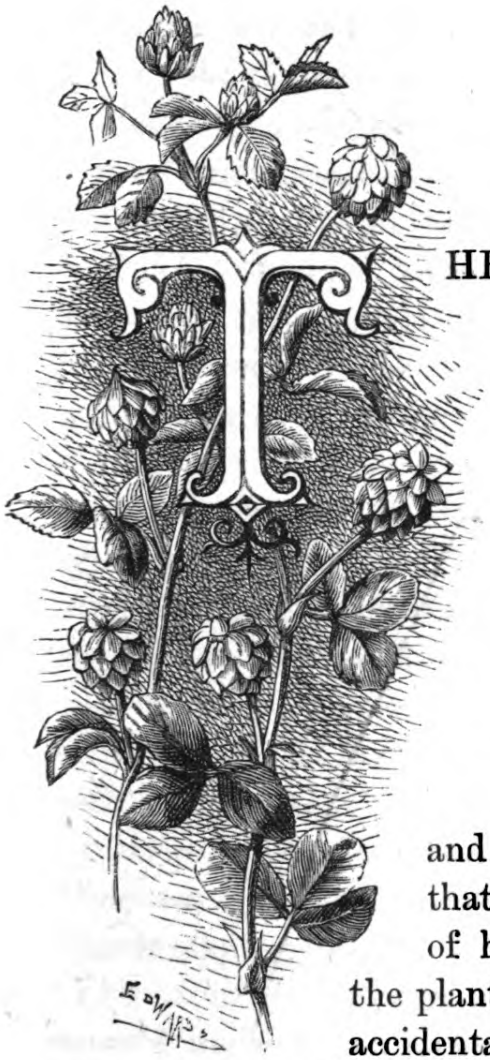
> ———"those wastes of heath,
> Stretching for miles to lure the bee,
> Where the wild bird, on pinions strong,
> Wheels round, and pours his piping song,
> And timid creatures wander free."

The heath-honey, however, is browner and coarser than that which is gathered in other districts, and Gerarde, we see, says, "Of these flowers bees do gather bad honey." It gains a somewhat strong and distinctive taste that is more objected to by some persons than by others. Quite recently a new golden-yellow dye has been brought out, made from the woody portions of the heath. The shoots and stems are crushed, and then boiled in alum-water; after cooling, filtering, and standing for some three or four days exposed to the air, the liquid assumes a rich golden tint, and in this state, says the "Textile Manufacturer," it can be used for dipping fabrics of all materials. Used alone it gives various tints of yellow and orange, with oak-bark a rich brown, with cochineal tints of scarlet; or the colouring-matter may be precipitated, and then forms a fine yellow body-colour for wall-papers and many other purposes.

The heath or ling forms a low, straggling, and much-branched shrub. Its branches are tough and woody, and the leaves are borne in close masses on the side shoots. They are very small, and placed in four rows. The flowers, too, are small and of a purplish tint, or occasionally white. What at a first glance we might suppose to be the corolla is in reality the calyx, and the true corolla, having its petals

much shorter and smaller than the enclosing sepals, may be seen within on a more critical examination. Outside and beneath the true calyx may be seen four bracteas, resembling a secondary calyx. The corolla is deeply cut into four lobes, and the calyx and bracteal ring have each four parts, while the stamens are eight in number. Its flowering season is in June, July, and August. Africa is the true home of the heaths, and many fine species may be found in cultivation, but in Europe the ling is the most abundant representative of the family. Linnæus, in his "Flora Lapponica," tells us that large tracts of Lapland are covered with this heath, and that the people have an idea that the whole earth is destined to be ultimately overspread by two plants, the heath and the tobacco. Their prediction may not, after all, be so unreasonable as it appears on the surface, for, leaving out of the question the thousands of acres of heath in Scotland alone, tobacco in the only form in which the Laplanders could possibly know it has encircled the globe. The ling is in Wales called the grug cyffredin, and in Ireland the fraogh, or the grig.

HOP-TREFOIL



HOP TREFOIL.

Trifolium procumbens. Nat. Ord., Leguminosæ.

THERE are so many different species of trefoil, and so many of them have so strong a similarity, that their identification is somewhat difficult to those who have not specially studied them, but though many of the species have clustering and yellow blossoms, the resemblance of the flower-heads of the present species to little hops is a sufficiently distinctive and striking characteristic—a feature that, of course, gains for it its name of hop trefoil. The Welsh name for the plant is *Meillionen hoppysaidd*. This accidental resemblance in part to another plant procured for the hop trefoil the name at one time of the *Lupulus sylvaticus;* we find it thus named, for instance, in Parkinson's "Theatrum Botanicum" and other books of that period. Now the modern scientific name for the hop is the *Humulus lupulus*, and the first name is from the Latin word *humus*, soil or ground. Many of the plant-names were bestowed by early botanists, whose

reasons for assigning them to the various plants are now unknown, and the reasons that induced Linnæus thus to associate the hop with the soil are not forthcoming. Some writers suggest that the name is somewhat figurative, and refers to the feeble habit of the plant; this is a very unsatisfactory explanation, as the hop is a strong and vigorous plant, as any one can testify who has watched the rapidity with which it grows over a hedge or upon any support. Another theory is that the hop, if *not* supported, would grow and trail on the ground; this would-be explanation is too feeble to need any comment. The best explanation, perhaps, is that the hop is so-called from the rich soil or mould it requires; but this is, after all, only the best explanation out of a very poor choice, and it largely shares the unsatisfactory nature of the others. *Lupulus* is, we fear, equally unsatisfactory; it is derived from the Latin word *lupus*, a wolf. Pliny calls the hop *Lupus salictarius*, or willow-wolf, and it is suggested that it derived this name from the tenacity with which it clung to the willow and the injury it caused it. The hop has certainly no special preference for the willow. Probably we have lost sight of some ancient legend or other that would help us to an understanding of the name.

The root of the hop trefoil is small, somewhat fibrous and branching. Running stalks, some eight or nine inches in length, spring from the base of the stem and spread themselves freely all round. They are generally somewhat weak and procumbent in habit, but at other times are nearly erect. The central stems are ordinarily the most upright; as a rule all the stems are slightly clothed with downy hair, and they are often reddish

in tint, and especially near their bases. At the points where the leaves are given off we find the oval and pointed stipules growing in pairs. The leaves are composed of three leaflets; hence the name *trifolium* applied to the genus, that word being Latin in its origin, and signifying three-leaved. Each leaflet is broadly heart-shaped, the central one being on a longer stalk than the others, and removed to a little distance from them. The margins are finely toothed, the lateral veins very straight-lined, and parallel, and conspicuous. The leaf-stalks are ordinarily shorter than the leaves themselves, thus offering a marked contrast to those of the *T. repens.* or Dutch clover, and most of the other species of the genus. The flower-heads are borne on long and naked stalks, that spring from the axils of leaves, and are much longer than those bearing the leaves. The flower-heads are loosely globular or ovoid in form, and each contain some thirty or forty blossoms. These, a bright golden yellow in tint, stand on very short stalks, so short that they are not visible without pulling the flower-head to pieces. The various flowers lie closely together, and give the head the compact and hop-like character. After flowering, the upper portion of the pea-like flower droops down over the rest, and the golden yellow tint is exchanged for a pale warm brown or fawn colour. We may in many of the flower-heads thus trace the progress of decay, a few blossoms of the globular mass being brown, and the rest still of a pure yellow tint. Beneath these drooping standards of the flowers, and concealed by them, may be found the ripening pods. The blossoms are of the usual pea-flower type. A conspicuous standard stands nearly erect; the wings are smaller than this, and the keel is very small indeed, and contained within the wings.

The standard after flowering continues to increase in size, and falls over in the way we have just mentioned. The calyx is very minute in size, membraneous in texture, yellowish in tint, and terminating in fine teeth, the upper two of which are shorter than the others. Each pod is found to contain a single shining and reddish-brown seed.

The hop trefoil is ordinarily to be found preferring rather dry situations, such as railway embankments, roadside slopes, dry pastures, open downs, and the like, and in such situations is abundant almost everywhere. Its blossoms may be found from the middle of June to the end of August. Though a detached portion, such as we are obliged to figure, suggests the idea of a somewhat insignificant flower, one that might readily be overlooked, this result is not practically likely to happen, for the plant has a way of spreading that makes it in the mass sufficiently striking, and when we come across some yards of it on a dry and gravelly bank there is no fear of its being overlooked.

CROSS-LEAVED HEATH.

CROSS-LEAVED HEATH.

Erica Tetralix. Nat. Ord., Ericaceæ.

INGLED with the purple heather, *Erica cinerea*, and the ling, or common heath, *Calluna vulgaris*, two familiar wild flowers we figure in our series, we ordinarily find the cross-leaved heath, the subject of our present illustration. It is found all over Britain, and is particularly common in the west, and is more especially to be met with on heaths and moors where the ground is somewhat moist. Though smaller than the other species, and not so gregarious—if we may apply that word to a thing inanimate—it contributes its share in decorating and enlivening the waste. The plant is a perennial, and should be looked for during July and August by those who would admire its delicate wax-like bells, for this species, though not applicable to so many useful purposes as the others, is not inferior to any one of them in the beauty of its flowers. These in general are of a pale red colour, while they may sometimes be found of a pure white—a charming

variety, though the normal state is quite as attractive, and it is only, perhaps, the comparative rarity of the change of tint to white that attracts us to it. Comparisons, we are told, are odious, and we may justly bear that in mind, for certainly neither tint needs the depreciation of the other to enhance its beauty. We remember some little time ago finding a plant of the white variety and gathering a few of its heads of flowers. A botanical friend who saw them was anxious to look at the plant itself, a matter that appeared to present no special difficulty; so we sallied forth and wandered for a long afternoon in every direction over the open moorland, but never found it —the proverbial difficulty of finding a needle in a bundle of hay being about a parallel case. Our failure need never have found record in these pages did it not illustrate at least the comparative rarity of the white variety, for we must have wandered miles altogether amongst the heath clumps without finding an example.

The cross-leaved heath bears transplantation better than some of the others, and will thrive well enough in the garden if taken up either in the spring or after flowering, but as large a portion of soil as possible must be moved with it. It will be noticed that we say that it bears transplantation better, not transplantation well; the matter is, after all, comparative, and although we have tried more than once, we have never been able to get either the purple heath or the ling to do well in our garden. The things do not actually die at once, but decadence sets in, and they seem, like sentient beings, to pine for the free air of the moorland. It is of course always necessary to bear in mind, if we would endeavour to grow wild flowers, that we must as nearly as possible assimilate the conditions of growth; this

seems evident enough when stated in so many words, but we have before now found that it has not occurred to everybody. People sometimes think that if a certain plant does well under the hard conditions of its natural growth, springing from a barren soil on the dusty road-side, amidst the chinks of an old wall, or swept on the moorland by all the drenching rain and the strong gusts and breezes that gather their force on the bare expanse, that of necessity it will do still better if removed to their snugly walled-in garden, and planted in a far richer soil. Experience, however, to say nothing of common sense, does not confirm their view. In our remarks on the ling, we refer to the fact that much of the ground on which heath grows so freely, and which seems so utterly waste, is really well adapted to the purposes of the woodman.

The cross-leaved heath is ordinarily a smaller plant than either of the other two common species, and is often rather overshadowed by them. The stalks are shrubby, and from nine inches to a foot high. As the plant develops, the lower leaves fall away a good deal, but the points to which they were attached remain easily visible, and give a roughened character to the stem. The leaves grow in fours on the stem, a fact that is duly illustrated in its title, the cross-leaved heath. The upper leaves are often gathered up so as nearly to touch the stem, while the lower ones stand sharply out at right angles from it. Each leaf has a fringing of soft, stiff hairs; these give a marked character to the foliage, though they vary in degrees of development, and are sometimes, though rarely, entirely absent. The flowers are ordinarily somewhat larger than those of the fine-leaved heath, and are always clustered together at the tops of the branches; all the flowers in one cluster turn in the same direction.

"There is in this countrie two kinds of heathe, one of which beareth his floures alongst the stemmes and is called long heathe; the other bearing his floures in tutteys, or tuftes, at the toppes of the branches, the whiche is called smal heath." Both Ray and Parkinson call the plant the low Dutch heath; why this should be we cannot at all explain, as there have never been any doubts thrown on the claim of the cross-leaved heath to be considered an indigenous British plant. They also call it the broom, or besom heath, a name very applicable to its sister species, but not so appropriate to the present plant. We might at first imagine that some error as to the particular kind had crept in, but Parkinson's description of "the small greene leaves somewhat having foure together," and of the flowers "five or sixe together at the toppes of the branches, of a pale purplish coloure," leaves us in no doubt that the species referred to is identical with the one we here figure. The cross-leaved heath is the badge of clan Macdonald, as the ling is of the Macdonnells. The third common species, the fine-leaved heath, the gayest and most attractive of them all, is the badge of the MacAlisters.

TOUCH-ME-NOT.

TOUCH-ME-NOT.

Impatiens Noli-me-tangere. Nat. Ord., Balsaminaceæ.

THOUGH some of our greater and later authorities have decided that the touch-me-not has little or no claim to be considered an indigenous species, it may very fairly, we think, claim a place in our series. A plant that has naturalised itself for many years—so many that Gerarde, unhesitatingly accepts it as a native, and Hill, writing more than a hundred years ago, says distinctly that it is a British plant—may very legitimately engage our attention. The touch-me-not is called locally the quick-in-hand in some districts, while in France it is the impatiente-n'y-touchez-pas; and all these names, as we shall see presently, are very appropriately bestowed on the plant. Touch-me-not is an erect and branching plant, reaching a height of some two feet. Its stems are perfectly smooth, rather succulent, as the stems of most plants are that thrive in damp situations, and swollen at the joints. The leaves of the touch-me-not are very simple in form, what

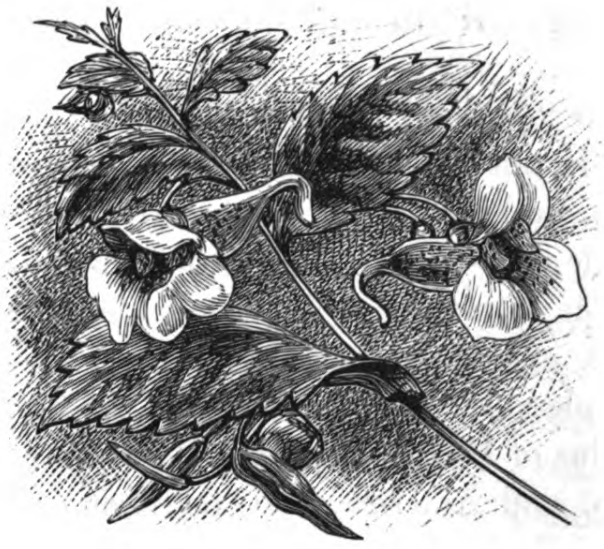
is botanically termed ovate; it may be described as a pointed egg-shaped leaf. The leaves have toothed edges; in colour they are a rather palish green, and in texture flaccid and delicate. The plant is found in moist shady woods in the northern counties of England and Wales, and much more rarely in Scotland. Its succulent and fragile character causes it to bear removal very badly, and even for the purpose of our illustration we found ourselves obliged to bring several pieces home before we were able to make the necessary drawing, as piece after piece drooped and withered in spite of all our care. The slender flower-stem rises from the axils of the leaves—*i.e.*, the junctions of the leaves with the main stalk—and each ordinarily bears one or more specimens of two distinct forms of flowers. The large and conspicuous yellow and orange freckled blossoms are very curious in form, and composed of six gaily-coloured pieces. The spur of the calyx is a noticeable feature, and calls for observation, as a specific distinction based upon it is made between the present plant and the *Impatiens fulva*. In the first of these this spur is loosely turned back and ends in a blunt and rounded point, while in the second the same part is tightly bent back on to the calyx, and its extremity is notched. The gay flowers of the wild touch-me-not rarely ripen their seed or form any fruit at all, but on each flower-stem are generally found some one or more minute blossoms, and it is from these that the pods are produced. As the seed ripens these pods burst at the slightest touch and scatter the seed to some considerable distance, the effect being decidedly startling to one who is unaware of this peculiarity. We need, after mentioning this, scarcely explain why the plant is called Impatiens, and the name, or rather sentence,

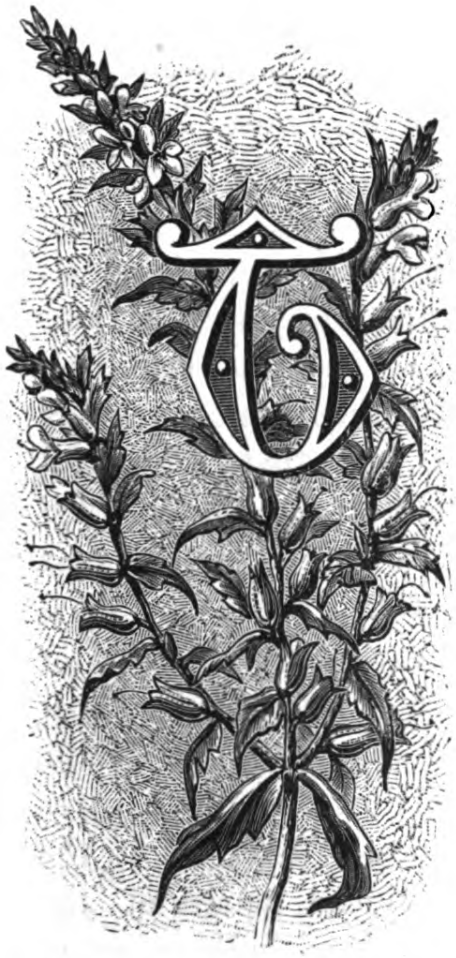
noli-me-tangere, would be so familiar in mediæval times from its association with the pictures of our risen Lord, that it would naturally occur to the monkish herbalists. "The nature of this plant is such," to quote one of these old authors, "that if you touch but the pods when as the seed is ripe, though you do it never so gently, yet will the seed fly all abroad with violence, as disdaining to be touched, whence they usually call it noli-me-tangere. The nature of this plant is somewhat admirable, for if the seeds (as I said) be fully ripe, though you put but your hand neere them, as profering to touch them, though you doe it not, yet will they fly out upon you, and, if you expect no such thing, perhaps make you affraid by reason of the suddennesse thereof." Its faculties as a medicine appear to have puzzled the ancients, as they seemed unable to "affirme any thing of certaintie, but rather by heare-say." Tragus presented it as a "vomitorie." Hill, in his "British Herbal," published in 1756, says that it is a powerful but dangerous medicine, and that the leaves bruised and applied to the skin will raise an inflammation.

Though the "Herbal" of Hill, from the later date of its publication, is not so quaintly curious as some of the older herbals, its hundreds of careful illustrations of plants give it a value of its own. Our edition, published in 1756, is folio. The illustration on the title-page represents "Æsculapius and Flora gathering from the lap of Nature health and pleasure," while the grand frontispiece shows us "the genius of Health receiving the tributes of Europe, Asia, Africa, and America, and delivering them to the British reader." The genius of Health is a nude and youthful figure, winged, but standing on the clouds, before

and below him stand or kneel the representatives of the four quarters of the globe—a negro of the blackest type, though not really so black, perhaps, as he is painted, for spear and shield are laid aside and on bended knee he offers his floral gifts; beside him is the red man of America, and behind are female figures typical of Europe and Asia. In the background is a group of would-be British readers, though the artist has not ventured to put them in the habiliments of every-day life. Clad in flowing togas, they reach with outstretched arms for the scroll the genius of Health advances towards them, and here, alas! the author's modesty failed him, for the scroll bears the words "British Herbal, 1756."

I. fulva, the orange touch-me-not, a plant of North America, has fully established itself, and is very commonly met with along the banks of the Wey and other Surrey streams. The flowers are smaller and of a deeper colour than in the species figured.





RED BARTSIA.

Bartsia Odontites. Nat. Ord., Scrophulariaceæ.

THE red bartsia is too common a plant almost everywhere to be overlooked, though as Curtis, in his "Flora Londinensis," says, "it is not remarked either for its beauty or utility." It is not a brilliant or attractive plant, and will probably rarely find itself in the floral posy of the wayside stroller, being ordinarily either completely overlooked, or else held not fit company for its gayer contemporaries. At the same time, as it is abundant by the roadside, on rubbish-heaps, and in corn-fields, we may not here pass it by, and more especially as we may hope that our labours, to those who are interested in them, may have led to a closer scanning of the country-side, and those who overlooked the bartsia before may now turn to our pages for information respecting it.

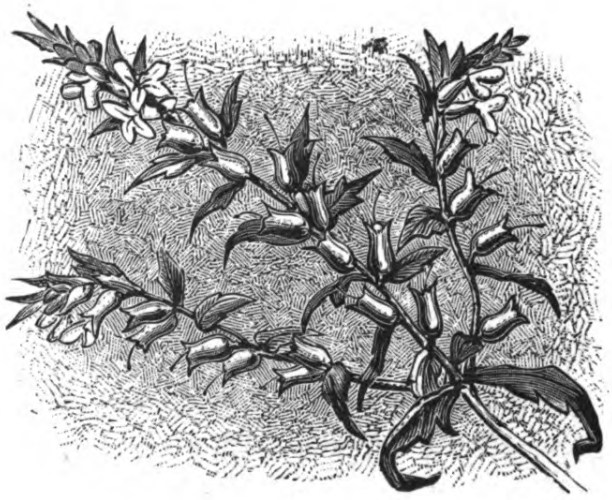
The plant differs a good deal in size according to the place in which it grows, though except in mere bulk the

bartsia seems less subject to variation than many other species. Amongst the standing corn it may be a foot or more in height, while by the side of the dusty road we see it flowering gallantly under harder conditions, and not more perhaps than four or five inches high. It is sometimes found with white blossoms, a colour-variation which, as we have often seen in the case of other flowers, is by no means rare. One marked variety of the plant has been found in which all the parts are rounder and more richly developed, and this has by some botanists been raised to the rank of a distinct species; but there seems small justification for this, as there is but little doubt that the forms are simply the result of more favourable conditions of growth, and that the plant does not differ in any essential points from the accepted type. In corn-fields, and when growing on fairly good ground, the stems and leaves are often greener and more succulent-looking than those that have a harder fight for existence. The roadside plants are frequently almost entirely purplish-red in colour, and this, added to the dust and dirt of the highway settling on them, gives them an appearance that is graphically described in the term brownweed, one of the provincial names of the bartsia. The plant, whatever its colour, bulk, or position and station in life, has, as we have said, a strong family likeness running through all the examples, and its identification under any circumstances is by no means difficult. The bartsia is an annual, and should be looked for during June, July, and August, the months when its flowers are developed.

When we go a little more into detail, and analyse the structure of the plant, we find that its root is very

fibrous and woody, while the stems boldly shoot up from it. These stems branch a good deal laterally, and always in pairs; they are in section somewhat squarish, or a form that may be explained as a square with more or less rounding of its corners, and are very often somewhat hairy. The leaves, of which only one true pair is shown in our drawing, are in pairs on the stem. The other foliate forms in our sketch are the floral leaves, and these are often in many plants more or less irregular in arrangement, even when the stem-leaves follow a rigid law. This is the case in the present plant; the alternate and somewhat irregular arrangement of the flower-leaves is at variance with the regular pairing off of the lower and stem-leaves. The leaves, it will be seen, are stalkless and lanceolate, and have their margins cut into a few large teeth. Their surfaces are often hairy, and the veins, though few in number, are conspicuously marked. The flowers grow in long spikes, all on each spike being turned in one general direction. We almost invariably find that these spikes nod or bend a little at the top, a perfectly natural arrangement, though it suggests the idea that the piece we have gathered is drooping, and needs the refreshing influence of a vaseful of water. The flowers individually are of the usual scrophularious and irregular type, and are divided into two very distinct lips; the upper one is convex, or dome-shaped, and very simple in form, while the lower one is cut into three very distinct and fairly equal segments. These lips are very widely distended on the full expansion of the blossom. The calyx is tubular, and at its summit cleft into four parts, often hairy. In colour it is generally a deeper, duller shade of red than the corolla. The stamens are four in number, and arranged in

two pairs, one pair being provided with rather longer filaments than the other. The style is filiform, or thread-like, and terminates in a small and inconspicuous stigma. The capsule is of a rounded, oblong character, and is divisible into two cells, each containing several small whitish seeds. The bartsia is very closely allied to the eye-bright, the *Euphrasia officinalis*, another very common plant, and was therefore by many of the older herbalists called the red-flowered eye-bright; while it is in some respects not unlike the cow-wheat (*Melampyrum pratense*), a plant we figure in the present volume, so that some mediæval writers, to be quite upon the safe side, gave it the long compound name of eye-bright cow-wheat, and almost all these ancient authorities classify it botanically as the Euphrasia. Linnæus himself, though he afterwards made a new genus, Bartsia, for its reception, called it Euphrasia in his "Systema Vegetabilium," published in 1784, as he had previously done in his "Flora Suecica," a book that appeared in the year 1755. The bartsia was so called by the great Swede after his friend Dr. Johann Bartsch, of Königsberg.



MOUNTAIN POPPY.

THE YELLOW OR MOUNTAIN POPPY.

Meconopsis Cambrica. Nat. Ord., Papaveraceæ.

SOME of our readers may be possibly somewhat startled at the idea of a yellow poppy, having all their lives associated the very name of the poppy with a mass of flaunting flaming scarlet; but the facts are, nevertheless, strictly as we have represented them. Though the comparative rarity of the yellow flower makes it appear strange to us, it is common enough if we can only see it in its chosen habitat. It is a plant of the rocky solitudes, and should be looked for amidst woods and shady nooks in hilly districts: hence we find it on the grand rocks of Cheddar, amongst the mountains of Westmoreland, the highlands of Devon, and abundantly in many parts of North Wales. The plant is a perennial, and, in any case, it would have little difficulty in maintaining itself, as the multitudinous ripened seeds are in autumn freely shed from the numerous

capsules, and guarantee an ample succession for the coming year. We have thus seen it coming up year after year in the same spot. When we speak of the novelty that a brilliant yellow poppy may be to many to whom the plant is unfamiliar, we must not forget that we have already figured another yellow poppy, the Common Horned Poppy (*Glaucium luteum*), to be found on almost every strip of sandy or shingly beach around our shores.

Poppies are emblems of somnolence, and from one species of them opium is obtained; but the following is an interesting instance of a prolonged sleep—a sleep of centuries in the plants themselves. We were so struck by the paragraph as it originally appeared in a medical journal that we make no scruple in quoting it, in the lively hope that others too may find an interest in it. "The mines of Laurium are generally known to be largely encumbered with scoriæ, proceeding from the working of the ancient Greeks, but still containing enough silver to repay extraction by the improved modern methods. Professor Hendreich relates, according to 'L'Union Médicale,' that under these scoriæ, for at least one thousand five hundred years, has slept the seed of a poppy of the species *Glaucium*. After the refuse had been removed to the furnaces, from the whole space which they had covered have sprung up and flowered the pretty yellow corollas of this flower, which was unknown to modern science, but is described by Pliny and Dioscorides. This flower had disappeared for fifteen to twenty centuries, and its reproduction at this interval is a fact parallel to the fertility of the famous mummy-wheat." What the precise species here referred to may be we cannot say, but its relationship to our present plant must, in any case, be a close

one, and warrants our reference to a fact in natural history which is very interesting in itself.

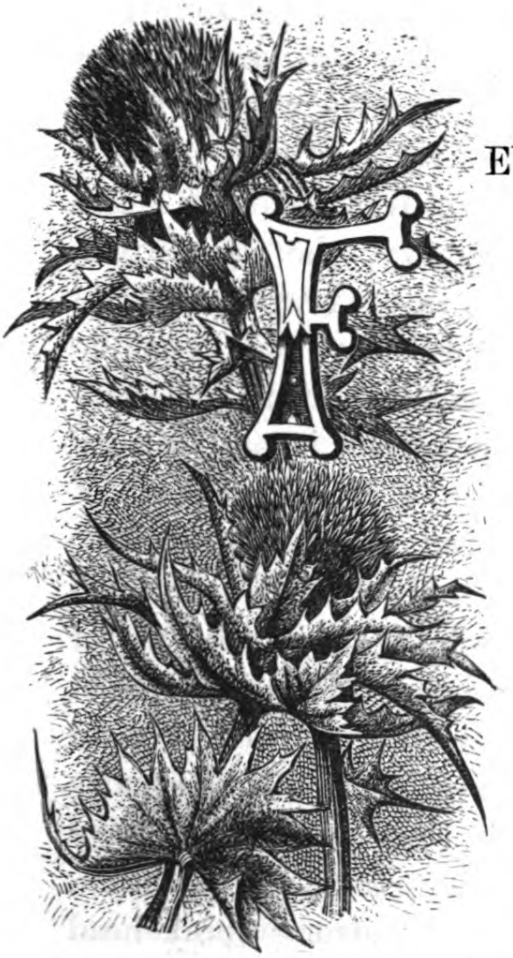
Our yellow poppy was first discovered in its mountain solitudes, and identified as a true British plant, by the celebrated herbalist and apothecary, Thomas Johnson, in a botanical excursion through Wales. Forsaking the mountain recesses and the haunts of Flora for the more stirring service of Mars, he sacrificed his life to the royal cause, and perished by the sword in the year 1644. Parkinson, in 1640, speaks of this poppy in a very matter-of-course way, and tells us where he found it, without in any way suggesting that he had made any rare discovery. It is, in fact, like many other plants, excessively rare if sought for in the wrong places, but common enough when the right localities are visited. A man might search the hedgerows for years, and never find a water-lily, though its silver chalices floated in hundreds in a pool hard by; and those whose lives are spent chiefly in towns have little idea of the floral wealth of their native land, and imagine, possibly, that some thirty or forty different kinds of plants exhaust the list.

The mountain poppy grows to a height of some eighteen inches, its general character being erect, and the growth delicate and graceful-looking. The foliage is a bright fresh green, and often slightly hairy. The leaves are borne on rather long stalks, and each leaf is of the form termed pinnate, the three or four pairs of lateral segments being again deeply cut at their margins: the total result is a very rich-looking feathery leaf. The flowers are large and handsome, as our illustration may in some degree testify, and are borne singly on long flower-stems, that rise well above the mass of foliage whence they spring.

The sepals of the calyx are two in number, and, as in the other poppies, fall off on the opening of the flower. In our figure it will be seen that one has already fallen, and the expanding bud will rapidly throw off the remaining half. The corolla is composed of four petals; these are very delicate and fragile-looking, and very crumpled in surface, especially when first unrolled from the bud. The whole plant quickly fades when gathered. The flowers, differing in this respect from most of the other poppies, have a pleasant odour. The generic name, *Meconopsis*, of the mountain poppy is derived from two Greek words, signifying poppy and resemblance. The plant differs slightly in botanical structure from the better-known species, and is put, therefore, into another genus; and we find Parkinson giving it the title of the "yellow wild bastard poppy of Wales." The modern specific name, *Cambrica*, clearly indicates the association of the plant with Wales, on the soil of which, as we have seen, it seems best to flourish.

THE MILK THISTLE.

Carduus Marianus. Nat. Ord. Compositæ.



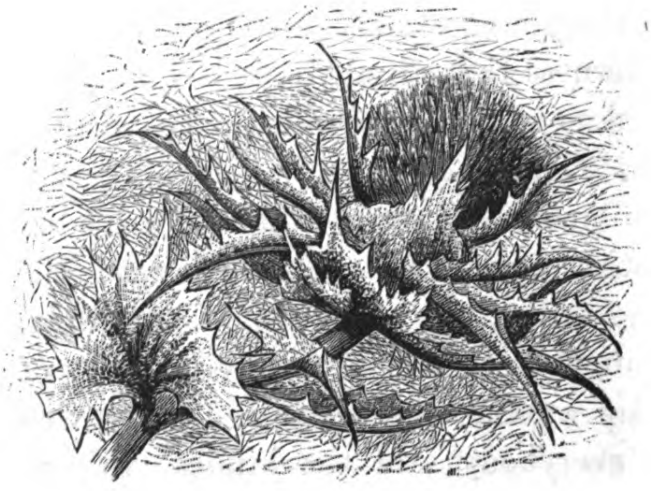
FEW of our native plants are more striking in appearance than a good specimen of this plant. The beautiful milk-white veins spread thickly on every leaf, the size of the leaves themselves, and the grandeur of the whole growth are points that must appeal to all beholders who have any eye at all for natural beauty, and few plants may more appropriately be transferred from the wild state to the beds of the flower-garden. It takes up a great deal of room, but where a garden affords plenty of space this is anything but a drawback, as it is a very noble-looking plant. It is possible, however, that the gardener might object to the free way in which the seed gets dispersed everywhere, and we know by our own experience that one consequence of introducing it is the necessity of freely weeding out the superfluous seedlings that spring up all over the garden. After all, however, they do not give anything

like the trouble that groundsel and many other garden-loving interlopers do, and the toil of a little preliminary hoeing is soon forgotten when the plants destined to be preserved are revealing themselves in all their beauty. The plant is a biennial, and should be looked for in hedges, banks, and on rubbish-heaps. It flowers during June and July; but the flowers, effective as they are, are not the crowning glory of the plant. The stalks of the milk-thistle are ordinarily from four to five feet high, though we have sometimes seen them over six feet in height. The lower part is often downy and groovy, the upper part smooth and finely channelled. The leaves near the root are boldly spread out into a great rosette, each leaf being a couple of feet or so in length, and deeply cut into broad and very prickly-margined lobes. The upper surface is very smooth and glossy, and marked all over with a broad network of white veins. It is impossible to even suggest the beauty of the appearance in the very limited space our plate affords; for we can but give an inch or two of the tip of one of these grand leaves—as hopeless a proceeding almost as that of the man in classic story who carried about a brick to give people an idea of his house. Occasionally the leaves are wholly green, and it then becomes necessary to avail ourselves of some other means of identification, none being more efficacious than the strong spiny head from which the blossoms emerge. The upper leaves are very much smaller, and clasp the stem tightly by the broad lobes at their bases; they are generally boldly bent back from the stems. The flower-heads are large, and of a rich crimsonish purple, while the florets are of the usual character we find in the thistle family. The scales of the involucre are foliaceous in character, and are armed with

formidable prickles, and after the flowering season is over the place of the florets is taken by the head of white down that rises from the seeds below, and that forms so marked a feature in the various kinds of thistles—a feature that is interesting in itself, and most efficacious in securing the distribution of the seeds. These seeds are numerous, blackish and shining, each being crowned with a tuft of stiffish down. They contain a certain quantity of oil, and have therefore been sometimes used in rural medicine; but their principal service, after the necessity of obtaining a supply of the plant, seems to be to provide a welcome repast for the goldfinch and several other grain and seed eating birds.

Besides the use of the seeds in emulsions, and the beauty of the plant when transferred to the garden, we are told that it may be eaten when young as a salad, though this is a statement that we should rather demur to, as even in their youngest seedling state they have an aggressive and well-armed look that would send one off to the lettuces in preference. We are also given to understand that the young stalks, peeled and soaked to take off a little bitterness that cannot quite be ignored, are excellent, either boiled as a table vegetable, or baked in pies like rhubarb-stalks. This may be so, but it brings at once to our mind a similar statement as to the culinary virtues of the common stinging-nettle. We had read that stinging-nettle leaves made an excellent table vegetable, so we one day determined to try them, as any quantity of them were springing up around our orchard. They were duly prepared, and everybody said the kindest things they could for them; but——we never had them again. The subject was tacitly dropped, and we returned in all true allegiance

to our kitchen-garden. Pliny tells us "It is not thought worth while to boil it, the cooking of it being so exceedingly troublesome, it is said." This leaves us in a very vague state of mind as to whether the people who disliked the trouble of cooking it discarded it in consequence or ate it raw. If we may at all judge their feelings by our own they probably adopted the former course. Culpepper says of the milk-thistle, "It cleanseth the blood exceedingly; and in spring, if you please to boil the tender plant (but cut off the prickles unless you have a mind to choak yourself), it will change your blood as the season changeth, and that is the way to be safe." Westmacott, too, writing in the year 1694, thus sings its praises and laments "the good old times":—"It is a Friend to the Liver and Blood: the Prickles cut off, they were formerly used to be boiled in the Spring and eaten with other Herbs; but as the World decays, so doth the Use of good old things, and others more delicate and less virtuous brought in."



HAIRY ST. JOHN'S WORT

HAIRY ST. JOHN'S WORT.

Hypericum hirsutum. Nat. Ord., Hypericaceæ.

THE hairy St. John's Wort, or *Hypericum hirsutum*, may be commonly met with in woods and in the rank undergrowth of the copse and thicket, though it seems to thrive best when on a soil of chalk. It is a perennial, and those who would see it at its best must visit the localities we have named during July or August, when its slender spine bears its terminal of brilliant yellow blossoms. The root of the hairy St. John's Wort is brown, fibrous, and somewhat woody; the stem thrown up is erect and rigid, and ordinarily about two feet in height, though we may occasionally see specimens that exceed this. It is round in erection, and on being cut through is found to be solid, unlike that of its near relative, the square-stalked St. John's Wort, or *Hypericum quadrangulum*, where the rectangular stalk is a prominent specific feature. The stem of the hairy St. John's Wort is always more or less hairy or downy,

and thus justifies the common English name of the plant; it is often reddish in colour, too, though this is a matter that may or may not be according to the place of growth. We frequently find that plants which grow in somewhat open situations, where the struggle for life is somewhat harder, have tinted stems, while similar plants growing amidst the surrounding vegetation and in the shelter of a wood or hedgerow remain green; our present plant is one of the numerous cases in point. The stem is very stiff and rigid in character, and is either quite simple or very slightly branching. This branching, when it takes place at all, is near the summit. The leaves are a full rich green in colour when the light shines through them, but, like the stems, they are so covered with short hairs that their upper surfaces receive a greyish tinge in consequence. They are rather larger than in some of the species of *Hypericum*, spring in pairs from the stem, have very short foot-stalks, and are marked with multitudinous, minute, transparent or pellucid dots, a feature that they share in common with several of the other St. John's Worts, and which has earned for them the vulgar name of "thousand holes."

In the leaf axils we ordinarily find two or four small leaves: these may be clearly seen in our illustration. At times these develop into branches, and at others are wholly wanting, but the normal state of things is as we have figured it. The calyx is composed of five narrow segments, its edges being fringed with black glandular dots. Six of the genus exhibit this glandular development: the trailing St. John's Wort, or *Hypericum humifusum*; the flax-leaved St. John's Wort, or *H. Linariifolium;* the slender St. John's Wort, or *H. pulchrum;* the mountain St. John's Wort, or *H. montanum;* the marsh St. John's Wort, or *H. Elodes;* and the

species we here figure. The corolla is composed of five bright yellow petals : it will be noticed that, as in the case of the periwinkle, *Vinca major,* a plant we have already included in our series, the general effect of the corolla is regular and symmetrical, but that if we examine any one of the five petals composing it we shall find it un-symmetrical. A buttercup or a rose petal we could double down the centre and so get two similar halves, as indeed we could with the petal of almost any other flower, but it will readily be seen on turning to our drawing of the periwinkle or in studying the present figure that it would be impossible so to halve their petals. We get, therefore, a symmetrical whole out of a series of unsymmetrical parts. The stamens of the hairy St. John's Wort are numerous, and on dissection of the plant will be found to be in three bundles, hence they are said botanically to be triadelphous. The filaments are very slender and straight, shorter than the petals, within which they form a conspicuous feature. The styles are three in number, simple in character and widely spreading ; and the seed-vessel is an oblong capsule of three cavities and three valves or partitions, forming a very pretty section when a keen-edged knife has made the necessary sharp cut across it. The seeds within are numerous and very minute. The older botanists, not paying much regard to niceties of distinction, appear to have overlooked this species of St. John's Wort. By superficial observers the discrimination between this and the *H. perforatum* is not often observed, but it differs from it in being a taller plant, in being covered with hair, in having a perfectly round stem, and in the glands on the calyx being far more numerous and conspicuous.

By some of the older writers the hairy St. John's

Wort was called the *H. villosum* or the *Androsæmum hirsutum*. Woodville, in his "Medical Botany," published in 1790, tells us that the *H. perforatum* was "in great request with the ancients, who prescribed it in hysteria, hypochondriasis, and mania. They also imagined that it had the peculiar power of curing demoniacs, and thence obtained the name of *Fuga dæmonum*." Hence its blossoms were hung by the peasantry both of England, France, and Germany in their windows to avert the evil eye and the power of the spirits of darkness. "Gathered upon a Friday, in the hour of Jupiter, when he comes to his operation, so gathered, or borne, or hung upon the neck, it nightly helps to drive away all phantastical spirits." As we find that the old writers class many of the species of St. John's Wort together, and fail to discriminate the hairy St. John's Wort at all, we may readily assume that the plant we represent often took the place of other species and shared to the full in all their mystic virtues, some of which were of a less sombre character.

CORN BLUE-BOTTLE

CORN-FLOWER, OR CORN BLUE-BOTTLE.

Centaurea Cyanus. Nat. Ord., Compositæ.

OUR present plant forms one of the brilliant trio that gives such splendour of colour to the harvest-field, the golden marigold being another, and the scarlet poppy the third; and nowhere else do we find the three pure primary colours, the blue, the scarlet, and the yellow, in such intensity. Each of the plants we have named carries with it its connection with the harvest-field; for one is the corn-marigold, the other is the corn-poppy, or corn-rose, while the subject of our present illustration is called in an especial degree the corn-flower. The marigold will at times appear amongst other crops, and all who have seen the railway embankments ablaze with poppies will not need to be told that these, too, sometimes wander from their allegiance to Ceres; but the blue-bottle will very rarely be found away from the golden grain, and but few corn-fields would fail to yield examples of it. Throughout temperate Europe it is always found in such localities, but in the

hotter regions of the extreme south—in Sicily, for example —it deserts the plains, and must be looked for on the high-lying pastures of the mountain-sides.

Few plants are more hardy than the corn-flower, as its seedlings, which come up abundantly in the autumn, brave the severest frosts. The flowers are of the compound character with which we are familiar in the Composite order; the florets of the disk are small, purple, and numerous, while the outer radiating florets, that form the conspicuous beauty of the flower, are fewer in number, but much larger, widely spread, and of a brilliant blue tint. The anthers, five in number, of the central florets, form a cylindrical tube somewhat longer than the corolla whence they emerge, and form a noticeable feature. The ovoid involucre from which the flower-head springs was by old writers supposed to sufficiently resemble a flask to justify them in calling the plant the blue-bottle. It is covered by numerous tightly-compressed scales, each bordered by a margin or fringing of brown teeth. The flowers are scentless. The plant varies considerably in height, but about two feet might be considered a very fairly typical size; the general character of the plant is upright; the stems that are thrown off leave the central stalk at a slight angle, and preserve the general upright direction and effect. The flower-heads grow singly at the ends of these long stems. The stems are somewhat angular, and covered with a loose cottony down; their tough, wiry character will be at once appreciated by any one who may attempt to gather the azure coronals they bear at their summits, a considerable amount of bending, twisting, and tugging being necessary before they can be induced to part company. The upper leaves are arranged alternately on the stalk, and are very long as compared with

their breadth ; like the stems, they are covered with more or less of the white cobwebby down that gives the whole plant a somewhat dull and grey appearance. The lower leaves are much broader and blunter-looking than the upper, and often have a roughly-toothed or jagged outline, a feature which we do not find in the leaves that, from their higher position on the plant, more readily attract notice.

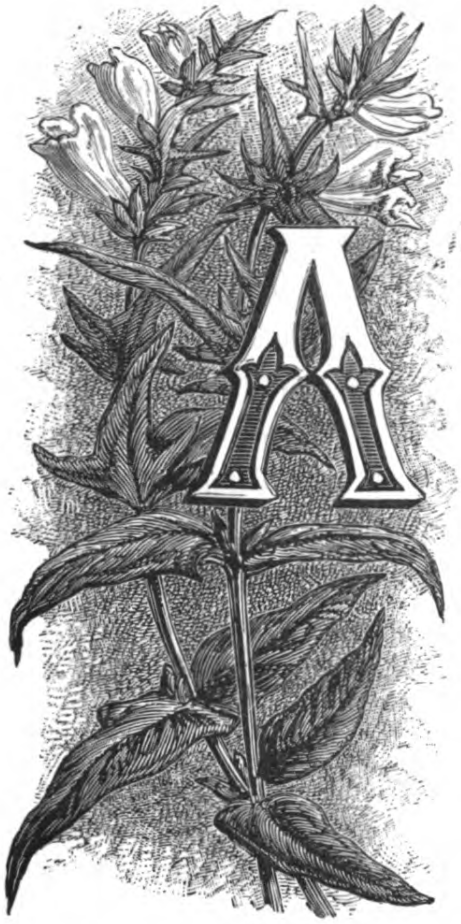
Though the brilliancy of its flowers makes it an attractive plant to the lover of natural beauty, the farmer regards the corn-flower as a pernicious weed to be carefully eradicated at sight; and the reapers bear it no goodwill, for its tough stems blunt their sickles; hence by many old writers the plant is called the "hurt-sickle." On this point the poet discourses feelingly, in the following scathing lines:—

"Blue-bottle, thee my numbers fain would raise,
And thy complexion challenges my praise ;
Thy countenance, like summer skies, is fair ;
But, ah! how different thy vile manners are.
Ceres for this excludes thee from my song,
And swains, to gods and me a sacred throng.
A treach'rous guest, destruction thou dost bring
To th' inhospitable field where thou dost spring.
Thou blunt'st the very reaper's sickle, and so
In life and death becom'st the farmer's foe."

The corn-flower would appear to injure the farmer not only materially, but morally, for its presence convicts him of negligence, and holds him up to public gaze for his want of energy. Holditch, an old writer, in his "Essay on Weeds," includes this plant in his denunciation of the poppy, the May-weed, and the marigold, and says: "The above class, with their gaudy colours, proclaim bad farming to the landlord, the tenant, and the passenger, and announce the neglect of using clean seed-corn, judicious fallowing,

and horse-hoe husbandry." It is sometimes called "blue-bonnet" or "blue-cap" provincially, and in Scotland it is the "blawort." The Irish peasant calls it "gormon," the Welshman the "crammenog yr yd." In Germany its name is similar to our best-known English name—it is the "korn-blume," while in France it is known as the "blavelle," "blaverolle," or "bluet." In Italy its name has the same signification as the English name hurt-sickle. By some mediæval writers it is termed the *Flos frumentorum—frumentum* being the Latin word for corn. The meaning of the generic name we have already dwelt on, when speaking of the knapweed, another plant of the genus. The specific name, *cyanus*, is Greek in its origin, and refers to its beautiful colour. We also find a classical myth of one Cyanus, a devotee of Flora, and admirer in a general way of familiar wild flowers, whose chief occupation seems to have been to weave for the goddess garlands of this and other corn-flowers. Bauhin called our plant the *Cyanus segetum*, the "blue-flower that appears in the corn-fields," a sufficiently appropriate name.

COW-WHEAT OR MELAMPYRE.



COW-WHEAT.

Melampyrum ***pratense.*** ***Nat. Ord.,*** *Scrophulariaceæ.*

ALTHOUGH the specific name, *pratense,* of our present plant would lead to the idea that the cow-wheat was a plant of the meadows, its true home is in the woods. The specific name was bestowed upon the plant by the Swedish botanist Linnæus, and it may possibly be that he may have found its *habitat* in his own country somewhat different from that common in Britain; or we can, without great disrespect to his illustrious memory, conclude that amidst the enormous amount of plant nomenclature for which he is responsible, some few errors would naturally creep in, and set this down as probably being one of these slips. Whichever theory we may adopt, the fact remains that with us the cow-wheat must be searched for in the forest, or in copse-land and thickets. We might, perhaps with advantage, replace "must be searched for" by the expression "will be found," for there are few suitable localities for the plant that will

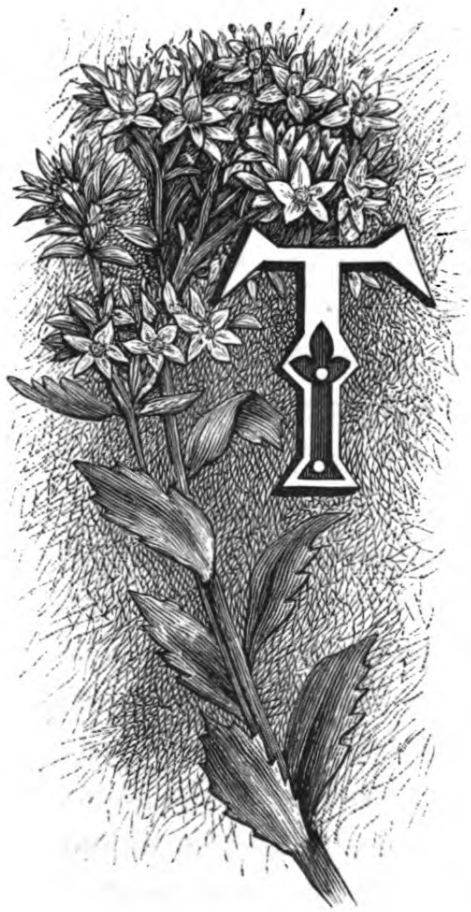
not furnish numerous specimens. Any one wandering in the open spaces in the woodlands any time between the beginning of June and the end of August will scarcely fail to see its yellow blossoms amongst the general undergrowth. As the stem is only about a foot or so in height it does not force itself on the eyes of the unobservant, but a very slight search for it will scarcely fail to furnish as many examples as one could wish, for when met with at all it seems to be always found freely. The cow-wheat is an annual, but the supply seems unfailing. The stems are slender and erect, and at intervals, from the axils of the lower leaves, slender straggling branches are thrown out in pairs. These lateral shoots spread widely from the central stem, and the whole plant is smooth to the touch, and has not the hairy or downy covering so commonly seen in many plants. The leaves grow in pairs, with a considerable portion of bare stem between each pair, and each of these is at right angles to those that are next to it. The foliage is long and pointed in character, entirely without serration, and each leaf, as we may clearly see in our illustration, stands boldly out from the stem that bears it. The floral leaves are much smaller, much shorter in proportion to their length, and have one or more pairs of projecting lobes or points at their bases. A glance at the figure will show this difference of form far better than any lengthened verbal description.

A variety, which was at one time elevated to specific rank under the title of *Melampyrum montanum*, is found in some mountainous districts of the north; in this variety the plant, as a whole, is smaller, and these floral leaves are what is termed in botanical language entire, that is to say, they show none of the lobing or toothing that is so cha-

racteristic a feature in those parts in the typical plant. The flowers are a bright pure yellow in colour that may be defined as pale gold. It is about intermediate in tint between the delicate colour of the primrose and the full rich yellow of the buttercup. The flowers always spring in pairs from the bases of the leaves, and all are turned in one direction. This curious feature may be readily noticed in the figure, where the two pairs on the one piece and the three pairs on the other all rigidly point in their own direction. The blossoms are somewhat quaint in form, and show the irregularity that is so marked a feature in all the plants of the order; the lower lip, it will be seen, stands sharply out instead of hanging downwards, as we find to be the case in most flowers of like structure. The great majority of our flowers, when attentively considered, will be found to be either multi-symmetrical and composed of several similar parts, as the dog-rose or the apple, or else bi-symmetrical, and only divisible into similar halves. Of this latter the pansy is a good example, and this bi-symmetrical character is a marked feature in the Scrophulariaceæ, as we may very well see by examining the flowers of the speedwells, the mulleins, snapdragon, foxglove, bartsia, eyebright, rattle, or the present plant. Several examples of the order have appeared amongst our figures, and our readers will have no difficulty in seeing the point to which we refer. It must not, however, be supposed that this feature is an exclusive distinction appertaining to this order. All flowers that belong to the Scrophulariaceæ show this structure, but all flowers that show this structure are not Scrophulariaceæ. We see it again in the Labiates, for example, the dead nettle, the stachys, the self-heal, and the ground ivy being ready illustrations.

The cow-wheat owes the origin of its generic title to two Greek words signifying "black" and "wheat"; the seeds bearing some little resemblance to that grain. An old name for the plant was the *Triticum vaccinium*, and another English name for the plant that we find in the herbals is the "horse-floure." In Flemish it is the "peerd-bloeme." Linnæus tells us that in fields where this plant is abundant, the butter is peculiarly rich, and in the Middle Ages the somewhat extraordinary belief was held that the small seeds as they fell were turned into wheat. This belief could so readily be disproved that one finds it difficult to imagine how it could ever have obtained credence. Dodonæus tells us that "the seede of this herbe taken in meate or drinke troubleth the braynes, causing headache and dronkennesse;" and certainly those who started the harvest theory troubled their "braynes" with the plant to very little good.

ORPINE.



ORPINE.

Sedum Telephium. Nat. Ord., Crassulaceæ.

THE plant here represented is one of the numerous species of house-leeks, of which the common stonecrop, another plant in our series, supplies us with a second example. They are also called collectively stonecrops. The first name refers to the habit that many of the species, and notably the *Sempervivum tectorum*, or common house-leek, have of springing up on old thatched roofs or the tops of walls. The first half of the word is sufficiently explanatory in itself; the second half is from the Anglo-Saxon *leac*, a plant, literally therefore the house-plant. The second name, the stonecrop, will need no explanation to those who have seen the old stone walls and rocks in many parts of the country one mass of golden blossom from the flowers of the *Sedum acre*, or common stonecrop. Of the stonecrop we have more to say elsewhere, but as the house-leek does not appear in our series, we may just pause to refer to it. It is a native of the mountain-ranges of central and southern

Europe, but the strangeness of its growth and its quaint appearance have led to its wide introduction, and it may now abundantly be found throughout the country, its large rosettes of great fleshy leaves being prominent on many an old roof in country districts.

We write these lines in a district surrounded by great swelling chalk downs that appear to cut it off in its isolation from the rest of the world, and the whole district is permeated with superstitious folk-lore; one example of this will suffice. We were struck with the beauty of some flowering-stems of house-leek on a cottage wall, and, not then knowing their occult power, were desirous of plucking one or two of them, with a view to closer examination, and a possible sketch. We at once found, however, that this was a totally inadmissible idea. Two heads of the flowers had, in spite of strong remonstrance, been gathered the previous season, and before the year had run its course a brother and an uncle had died. As the evil appeared to descend upon the dwelling thus violated, we could only bow to circumstances, and leave the household fetish alone.

All the plants of the order have fleshy and succulent leaves, but the orpine is easily distinguishable from most of the others from the fact that while its leaves partake of the fleshy character of all the other species of stonecrop, it has flattened leaves, a peculiarity that is only shared by the rose-root, or *Sedum Rhodiola*. The root-stock of the orpine is perennial, rather large and swollen-looking, and containing within itself a store of nutriment to maintain the plant in the somewhat sterile places in which it may ordinarily be found. The true home of the orpine is in the hedge-banks and on waste ground sheltered by bushes, though the beauty of its flowers and leaves often leads to its being

transplanted to the cottage garden. Our illustration is taken from a field specimen, which we gathered off a hedge-bank. In its wild state the plant is from one to two feet high, but in the garden we have seen it a yard high. The stalks thrown up are numerous, upright, unbranched, round, and solid-looking, and generally a rich red in colour, their upper portion especially being often in addition a good deal spotted and streaked with a deeper red. The leaves are numerous and coarsely toothed. In some plants the upper leaves are rounded at their bases, and are without stems, while in others we find them attenuated and tapering at their bases, and borne on a short stem. In colour they are a bluish green, giving the whole plant when seen as a mass in the hedgerow a somewhat cold greyish appearance. The flowers are carried in compact heads at the tops of the stems, and form a brilliant mass of crimson colour. The spreading and acutely-pointed petals ranging boldly out from the centre, and the ten conspicuous stamens, are very noticeable.

The generic name is derived from the Latin verb *sedo*, to sit, in allusion to the way that many of the plants of the genus appear to drop themselves on rock or brickwork or thatch, with little or no earth in support. The present species, the orpine, has a wide distribution, and in sunnier climes than ours it is a plant of the mountains. Lindley, we see, gives its true habitat as mountainous woods, and Casalpinus, an early herbalist, calls it the *Crassula montana*, but it grows freely with us in lowlier situations. It may possibly have been an introduced plant originally, but it is so tenacious of life that it has become thoroughly at home with us. This tenacity of life has gained for it the name of live-long. We have heard of its being used in

some country districts as a decoration for a fireplace-screen or chimney-board, a framework of wood being covered with the plant. We are told that if this be sprinkled with water about once a week it will continue fresh and green-looking for some months. This vitality led to another old custom. On Midsummer Eve betrothed maidens used to gather two plants of orpine, and set them on a trencher, and estimate their lovers' fidelity (or possibly their own fickleness) by the continued flourishing and well-being or the reverse of one or the other plant. Hence its name got a considerable addition to it, and was sometimes given as live-long-love-long. Its most familiar English name, orpine, is a curious illustration of the perversity we sometimes meet with in old plant nomenclature. It is derived from auripigmentum, the gold-coloured pigment called orpiment, a most appropriate name for the stonecrop and several other plants of the genus, but, by a perverse ingenuity, applied to almost the only plant that does not possess the brilliant hue of orpiment.

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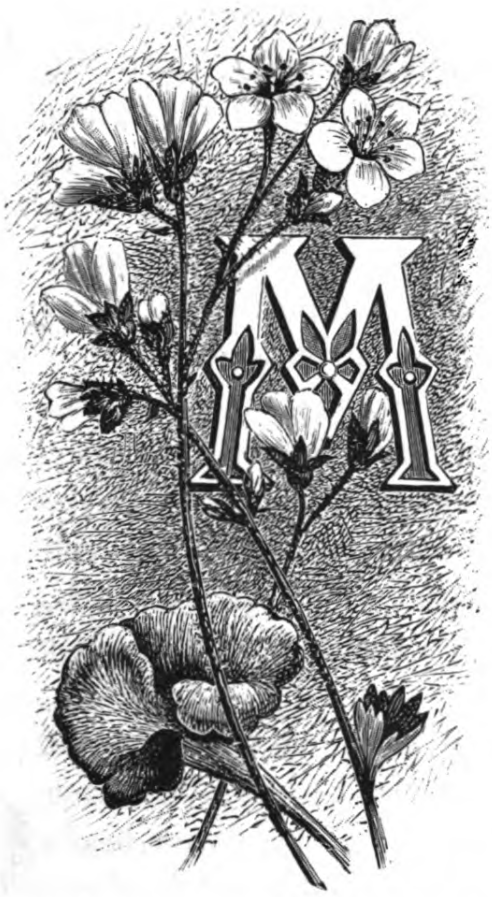
MEADOW SAXIFRAGE.



MEADOW SAXIFRAGE.

Saxifraga granulata. Nat. Ord., Saxifragaceæ.

MEADOW saxifrage is abundant in many parts of Britain on hedge-banks and in the meadows and pastures, especially where the soil is of a gravelly nature, though some large districts of England and Ireland are without it, and in Scotland it seems almost confined to the southern half of the country. The plant is a perennial. The root-stock has adherent to it a number of clustering, subterranean bulbs and tubers; these are often of a bright red colour, though they are more or less covered with brownish-white scales. When cut open they are found to be hard and solid. Internally they are white in colour, and have an astringent and disagreeable taste, a point that it may at first sight appear no one would take the trouble to ascertain; but the plant, as we shall shortly see, enjoyed at one time a considerable medicinal reputation, and it was on these little granules, or bulbous bodies, that its efficacy was supposed to depend. They give the specific name, too, to

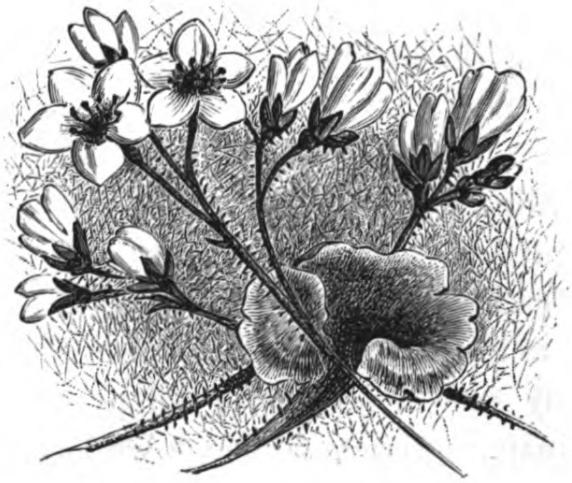
the plant, the title *granulata* being bestowed on the plant from this peculiarity of growth. The stems are few in number and very simple in character, any branching there may be being ordinarily of the very slightest extent, and very frequently entirely absent until we reach the divergent stems that bear the clustering blossoms. The stems of the meadow saxifrage are about a foot in height, and more or less covered with short but closely-set hairs. This hirsute character is more especially marked near the base of the stems: as we travel upwards and near the blossoms the hairiness changes in appearance somewhat, and becomes reddish in colour and glandular in character. The stems look longer than they really are on account of their bare appearance, the leaves being only very sparsely placed on them, and by far the greater part near the base, that part of the plant which, amidst the general verdure of the hedge-bank, is least striking.

The meadow saxifrage seems to have but a very slight attachment to the soil; we have found time after time that the gentle tug that we gave at the flower-heads has sufficed to put us into possession of the whole plant. The leaves which grow near the root spring from long footstalks having broad and sheathing bases; they are what is termed botanically reniform or kidney-shaped, hairy, and divided into numerous blunt-looking lobes. One of these lower leaves we have plucked and introduced in our drawing: it will readily be seen how different in character it is to the stem-leaves that are also figured. The stems are frequently reddish in colour, and very often most of the leaves have a certain tinting of red on their margins. The upper leaves are very small and few in number; as they ascend

the stalk we find their stems getting shorter and shorter in gradual and progressive diminution, until the uppermost are seen to be entirely stemless. The lobes or fingerings into which they are cut are often very acute. The calyx is covered with the glandular hairs that we have also seen are characteristic of the upper part of the stem, and the fine lobes into which its extremity is cleft spread boldly out. These lobes share the reddish tinge we find in the upper part of the stem, and the whole calyx is somewhat viscid to the touch. The corolla is composed of five white spreading petals, their bases and veining being slightly yellowish. The stamens are ten in number, five shedding their pollen before the alternating five: styles two in number, terminating in two expanding and diverging stigmas. The capsule is of a pale brown colour, oval in shape, terminating in two peaks, and filled with numerous black and very minute seeds. Bauhin, one of the older botanists, called the meadow saxifrage the *Saxifraga rotundifolia*, from the rounded character of its lower leaves. It will be remembered that a similar name is bestowed for a like reason on the little harebell, a plant we have already figured. The name of *Campanula rotundifolia* at first glance seems a peculiarly inappropriate one, as all the leaves that ordinarily come under observation are very long and narrow, and it is only as we approach the root we find the rotund form of leaf. As the rotundiform leaves are to the others as about one to half a dozen, the name does not appear in any case a peculiarly happy one, so that the feeling of inappropriateness which we have mentioned as the result of a first glance may possibly continue in some degree after a more lengthy inspection. Clusius, another ancient botanical authority, calls the meadow saxifrage the

Saxifraga tuberosa radice; this name, which clearly refers to the tuberous root, a very marked feature in the plant, is not by any means a bad one. The various species of saxifrage are chiefly dwellers amongst the rocks, and ordinarily flourish in greatest perfection on the high mountain-ranges of Europe, only two or three of the numerous species being found elsewhere; those, therefore, who would seek them in Britain must visit the high mountain regions of Cumberland and Westmoreland, the Welsh mountains, or the Scottish ranges for the greater part of them, and many of them are well worth the seeking.

The word saxifrage is derived from the Latin words signifying a rock, and to break, for it was believed that the penetrating roots of the plants disintegrated the rocks, hence in some old herbals it is called breakstone, and its names in French, German, and Dutch carry a like significance.



THE FIELD SCABIOUS.

Knautia arvensis. Nat. Ord., Dipsacaceæ.

SEVERAL species of scabious are more or less abundant almost everywhere; some, as the field scabious, our present plant, are more especially at home in corn-fields and meadows, while not a few are herbs of cultivation, and grace the garden by their beautiful forms and tints. The *Scabiosa succisa*, or devil's-bit scabious, finds a place in our series, and has already been described at length: it is a plant of the open meadows and commons. The *S. Columbaria*, or small scabious, is not so common a species. Its flowers are of a pale purplish blue, and should be searched for in pasture-lands and waste ground.

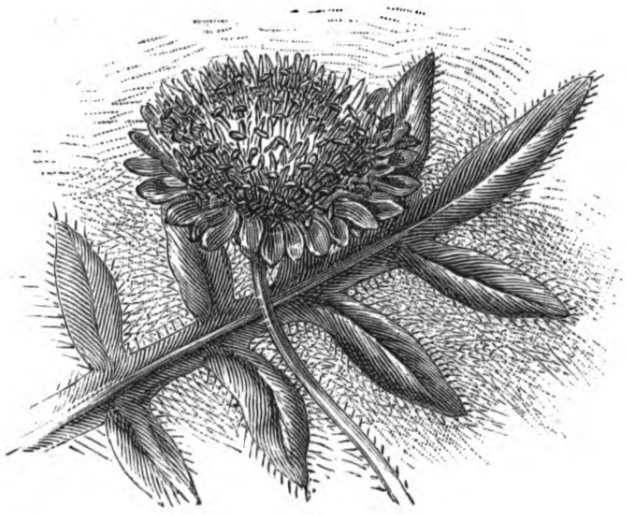
The species we have here figured is abundant throughout Britain, though we occasionally find districts where it does not occur; and it seems, so far as our experience goes, to flourish best on the chalk. It should be looked for in meadows, in the tangled mass of floral beauty that

bedecks the hedgerows, or amidst the standing corn. The last of these localities is especially characteristic. The field scabious is a perennial, and should be sought in flower towards the end of June and during July and August. Its large blossoms and general habit of growth tend to make the plant one of the more conspicuous denizens of the pasture or the harvest-field, while the delicate beauty of the tint of its flower-heads always renders it one of the most attractive. The general look of the flower-head is very suggestive of the structure of the composite order; and the order to which it really belongs, the Dipsacaceæ, is closely allied to the composite.

The root of the field scabious is perennial, dark in colour, somewhat woody in texture, and by its subordinate rootlets takes such a hold of the ground that it is with great difficulty eradicated. The plant is ordinarily some two or three feet in height. The stems are round in section generally, but slightly branched. They are somewhat coarse to the touch, a good deal clothed with short whitish hairs, and somewhat bare of leaves except near their bases. The leaves vary much in character in different plants, and in different parts of the same plant, some being much more finely divided than others, though there is a quite sufficient general resemblance amongst them to prevent any real difficulty arising in identifying the plant wherever we see it, even when we have not its grand flower-heads to make assurance doubly sure. The leaves grow in pairs on the stems, and share fully in the general hairiness of the plant. The radical leaves, the lowest of all, are stalked, very simple in character; they are lanceolate or lance-headed in shape (a form that may be perhaps better known to our readers in the foliage of the well-

known privet), about five inches long and barely one inch broad, and their margins cut on either side into some seven or eight bold serrations. The leaves that immediately succeed them are of about the same length, but possess the character shown in our illustration, though in many cases the intervals between the lateral lobes are not so great, and in some instances the terminal lobe is decidedly larger than any of the others. The flowers of the field scabious are all terminal, and borne on long stalks. The heads are large, and in general outline convex. The outer florets in the flower-head are large, and have very unequal segments. The inner florets are much smaller, but all are cut into four lobes or segments, those of the inner florets being equal in each floret. The buds—packed tightly yet with beautiful regularity before any of them have expanded—form a very quaint and interesting feature. The character of the supporting ring of floral leaves or bracts beneath the flower-head, which in botanical language is called the involucre, can be very clearly seen in our illustration, as we have purposely turned one of the flower-heads from us to display the appearance of the back or under part of the flower-head. In this view we see only the radiate bracts of the involucre, the form that by the older botanists was in such cases called the common calyx, and the larger segments of the outer ring of florets. In the devil's-bit scabious, the outer florets are scarcely larger than the inner, and in the small scabious the florets are five-lobed. The stamens of each floret of the field scabious are four in number, and, from their length and the size of the anthers, form a conspicuous feature. The fruit is rather large, somewhat four-cornered, and crowned by several short bristly hairs, that radiate fan-like from its

summit. Botanically the plant is either the *Scabiosa arvensis* or the *Knautia arvensis*, the second name being selected by some writers to form a new genus, as the plant, in some few and slight respects, which we need not here discuss, differs from the other scabious flowers in structure. The first generic name has reference to the old belief in the efficacy of the plant in cutaneous affections, while the second, bestowed by Linnæus, is in honourable memory of Christian Knaut, a Saxon botanist of considerable eminence, who flourished in the latter half of the seventeenth century, and died in the year 1716. The field scabious (or field Knautia if we desire to be very accurate indeed), seems to possess no great store of familiar names; the only deviation from the accepted title that we have been able to find is blue-caps, and this cannot be considered a very happy name, as there is nothing cap-like in the form, while in colour it is certainly not blue.



STONECROP OR WALL-PEPPER.

STONE-CROP, OR WALL-PEPPER.

Sedum acre. Nat. Ord., Crassulaceæ.

THE common stone-crop will doubtless be familiar to most of our readers, as it is not only frequently found in a wild state, but is, like the primrose, the foxglove, and many other plants, often transplanted to the garden, where it clothes readily with its verdure any old wall-top or rockwork. Its great fault, indeed, is its too great readiness to make itself at home. We remember once thinking how capital an edging it would make to some flower-borders; its close, compact, evergreen foliage, delighting the eye, to be in the flowering season transformed into a band of golden yellow still more striking. We put our idea into practice, but soon found how encroaching it became, as it spread beyond all reason into the body of the border; but by running a planting cord along each face, we were able with a sharp spade-edge to chop all neat and true again, and to diminish its width to reasonable proportions. "All's well that ends well," and the reverse of this is as true an

axiom; we found that every little piece chopped off, if not carefully removed, would grow, and the task became so onerous that we were glad to root it all up, and be thankful to feel that we had seen the last of it as a garden edging. It is surely, without exception, the easiest thing possible to plant: root, stem, or anything else seems to grow; the top, half an inch or so in length, of one of the stems can be put into a hole made by a small piece of stick—right way up or wrong is immaterial—and in a very short time it will show signs of full vitality; and when put into the interstices of rock-work it will, unless carefully watched, do much more towards clothing the whole than is altogether desirable. Another of our wild borderings was much more successful—a line of the cinquefoil. Both foliage and flowers are beautiful in form and colour, and the plant throws out long suckers and grows with rapidity. Like the stone-crop, it will soon, if not watched, grow out of bounds; but its larger size makes it more amenable to discipline.

The stone-crop should be looked for, in a wild state, on old walls, on rock, and on sandy ground. The old stone or flint walls one sees in many parts of the country furnish, in their rugged sides and uneven tops, many a crevice that gives welcome foothold to the plant; and dry, sandy heaths form another favourite habitat. It flowers some time during June or July, and is then a mass of golden blossom, but the flowering season is ordinarily very soon over. Those who have chanced to come upon an old wall or stone fencing when the hundreds of blossoms are all expanded in the sunlight will realise the meaning of the old name, golden moss, bestowed on it, as the ordinary green appearance is completely lost in the more intense hue of its brilliant stars.

The root of the stone-crop is perennial and very fibrous, its minute threads penetrating into the smallest crevices. The stalks are numerous, growing in tufts, many of them trailing, flowerless, and of no great size, others erect and bearing the clusters of flowers. These latter are ordinarily from one to three inches high; but the plant leads a somewhat hard life, and may often be found much dwarfed in consequence, while at other times, as when amidst other foliage or rockwork, it is drawn up to a considerable height. The stems branch a good deal, and are clothed with numerous leaves. The little, upright, and very succulent leaves that so closely overlap on the flowerless stems form a characteristic in itself sufficient to distinguish the *S. acre* from the other yellow-flowering species in the genus. The foliage has a semi-transparent look, and the leaves are not flat, as in most plants, but so fleshy in substance as to be almost round in cross section. The flowers are of a brilliant yellow tint; the sepals, five in number, are very small and inconspicuous, but the five acutely pointed and spreading petals form a noticeable feature. The stamens are ten in number, and about equal in length to the parts of the corolla, and the anthers at their summits agree in tint with the petals.

The generic name refers to the ready way in which the plant can make itself at home on hard rock or brick, with the slightest possible modicum of soil; it is derived from the Latin verb meaning "to sit." The specific name alludes to the sharp, pungent taste of the leaves. This pungency of flavour has procured for the stone-crop the names of wall-pepper and wall-ginger. The name by which it is known in Germany is equivalent to wall-pepper, while in France it is the "pain d'oiseau." It is curious that in

some parts of England also the stone-crop is called "birds' bread." There would appear to be no special appropriateness in the title. So far as we are aware, the plant is untouched by birds. Prior, in his "Popular Names of British Plants," we see, says "apparently from no better reason than its appearance in blossom when young birds are hatched;" but there is, probably, some old legend or belief that is at the bottom of it, if we only knew where to find it. Lobel called it *vermicularis*, partly, we are told, from the grub-like shape of the leaves—though we may, *en passant*, observe that a grub is not quite the same thing as a *vermis*, or worm, either in name, nature, or appearance—and partly from its medical efficacy, real or reputed, as a vermifuge. The medicinal value of the stone-crop seems to be only vaguely known. Culpepper, we notice, says of it, "It is so harmless an herb that you can scarce use it amiss;" while Curtis says, "According to the account which some medical writers give of this plant, it appears to possess considerable virtues; while others, from the durability of its acrimony and the violence of its operation, have thought it scarce safe to be administered. Applied to the skin, it excoriates and exulcerates it." Linnæus recommended it for the scurvy and dropsy.

THE TUBEROUS PEA.

Orobus tuberosus. Nat. Ord., Leguminosæ.

WE have already given several illustrations of what the old writers call "peason and his kindes," and the present species, though lacking the delicate beauty of the wood vetch, the rich purple clusters of the tufted vetch, or the graceful habit of the meadow vetchling—all plants we have already figured—has a quiet attractiveness of its own that, joined to its abundance, gives it full right to a place in our series. In Wales our plant rejoices in a somewhat long name, and is known as the "pysen y coed gnapwreid-diawg." As we are acquainted with some half a dozen Welsh words only, we may, perhaps, be excused if we make the most of our knowledge, and hasten to explain that "coed" means a wood; this we learnt from a native of picturesque Bettws y coed: a name that, we are told, signifies the village in the wood. We may next make a happy guess, and assume that "pysen," of the Welsh, means much the same thing as peason did in England in the Elizabethan era,

and, combining our knowledge and our assumption, we may affirm that the first three words are equivalent in meaning to wood pea. We have not, however, got half-way through the Cymric name yet, but for obvious reasons we now change the subject.

In Ireland the tuberous pea is the "carmel." The old Gaelic name for our plant is the "caermeal," and we find it still in the North called the corr, the carmylie, the cairmeil, or the cormeille; the similarity of these names to the Irish appellation is obvious and striking. The tuberous pea is often called the wood pea or the heath pea, and we shall throughout the rest of our remarks use any one of these terms indiscriminately, as the more distinctive term, tuberous, is somewhat long and cumbersome.

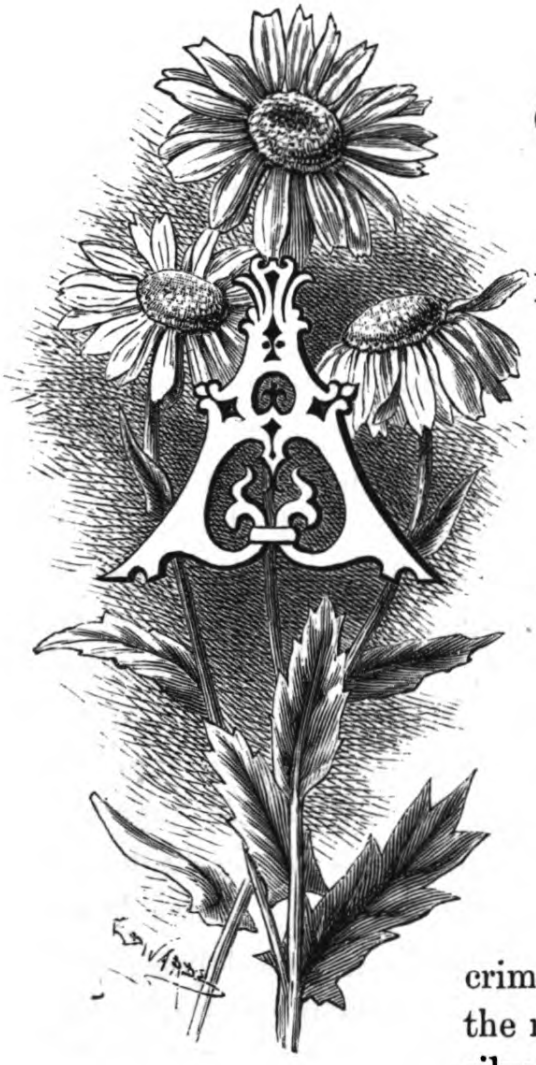
The wood pea may be searched for in copses and open spaces in woods or under sheltering hedgerows during May, June, and July. The root-stock is perennial, and consists largely of many small black tubers and a few fibres; these tubers are edible. "The nuts of this pease being boyled and eaten are hardlier digested than be either turnips or parsneps, yet do they nourish no less than the parsnep;" but one good parsnip, as far as bulk is concerned, would cut up into a hundred or more of these tubers of the wood pea, so that ordinarily they can surely scarcely have paid for the trouble of digging up. Bryant, in his "Flora Dietetica," writes as follows of the tuberous pea:—"The roots of this, when boiled, are said to be nutritious. They are held in great esteem by the Scotch Highlanders, who chew them as we do tobacco, and thus often make a meal of them; for being of a sedative nature, they pall the appetite and allay the sensation of hunger." This caermiel, as the Highlanders call it, is supposed to be the "chara" referred to by Cæsar

in his "History of the Gallic War," and is probably the same as that referred to by another Roman historian as furnishing, when mixed with milk, a sufficient sustenance for a time, when the army of Valerius outran their commissariat department. The Scottish mountaineers grind these tubers into a kind of flour for bread-making purposes in time of dearth, and prepare an intoxicating drink from them; they also believe that they are efficacious for lung affections. This lowly plant is, therefore, at once meat, drink, and medicine, though it is doubtful whether it fulfils any of these functions very satisfactorily: in the same way that when we buy a penknife that is also a measure, a file, a cork-screw, a punch, and has some few other uses, we discern that its efficiency in any one of these modifications is, after all, not great, and that, on the whole, we should have done better to have got any one of these things unencumbered with the rest. A weapon that aspires to be at once bayonet and saw, a tool that professes to be at once axe and hammer, ends in being neither in any efficient degree.

The generic name of the wood pea, *Orobus*, is uncertain in its significance, but it has been suggested that it is derived from two Greek words signifying an ox and to strengthen, on account of its yielding food to cattle. Whether it ever does to any appreciable extent furnish provender to cattle is a very doubtful point, as the situations in which it thrives best are scarcely those in which we can expect to find stock at all. It is, at all events, no more a strengthener of the ox, we should think, than some fifty other plants that receive an occasional bite as they spring up by the hedge-row or skirt the copse. The foliage of this plant is a good deal eaten by some grub or insect of a species unknown to us, so that it is very difficult to find a piece unmutilated.

We have indicated this in the lowest leaf in our sketch. In a drawing it is easy enough to remove all trace of these depredations and to restore the broken outline, but when one desires to find a good specimen for pressing, drying, and preserving, the case is altered. Dried plants, though of great scientific value, are generally poor relics of departed beauty, and this is the case with this plant especially, as it seems impossible to prevent it from drying a dull black or a dismal brown. In some parts of the country the heath pea is called the nipper-nut, a very meaningless-looking name on the face of it; but when we also find it called nappart, we see that, like the knapweed, some knob-like part of the plant has caused the name to be employed. In the present plant the tubers have given it the name of knob-wort, or knap-wort, or nappart, and so by a further corruption from the original idea we at length arrive at nipper-nut.

CORN-MARIGOLD.



THE CORN MARIGOLD.

Chrysanthemum segetum. Nat. Ord., Compositæ.

AMONGST all the localities that various plants favour, none bear away the palm for brilliancy from our cornfields. Our hedgerows are gay with the pure white blossoms of the sloe or the delicate pink of the rose; the moorland is dotted over with the golden stars of the asphodel, the white tufts of the cotton grass, the brilliant yellow of the furze, or the rich sheet of crimson of the heather-bells; while the river bears on its surface the silver chalice of the water-lily, or reflects in its waters the clusters of purple blossom of the loose-strife; but the cornfield has an intensity of colour all its own, for here we find in perfection the glorious corn-flower, one of our finest blue flowers, the intensely scarlet poppy, and the great golden discs of the corn marigold. Such a nosegay as a good handful of these three flowers would make should form a good test for the

detection of colour-blindness, and their representation not only taxes the powers of the colour-box to the uttermost, but leads us in despair to cast aside our poor pigments as we revel in the splendour and intensity, the wonderful depth and force of colour of any one of the three flowers in the bunch we have gathered. Nature paints with tints no human art can rival, and the nearest approach one can make to the colour of a poppy looks mere brickdust when laid by the silken splendour of the petals of the wayside weed.

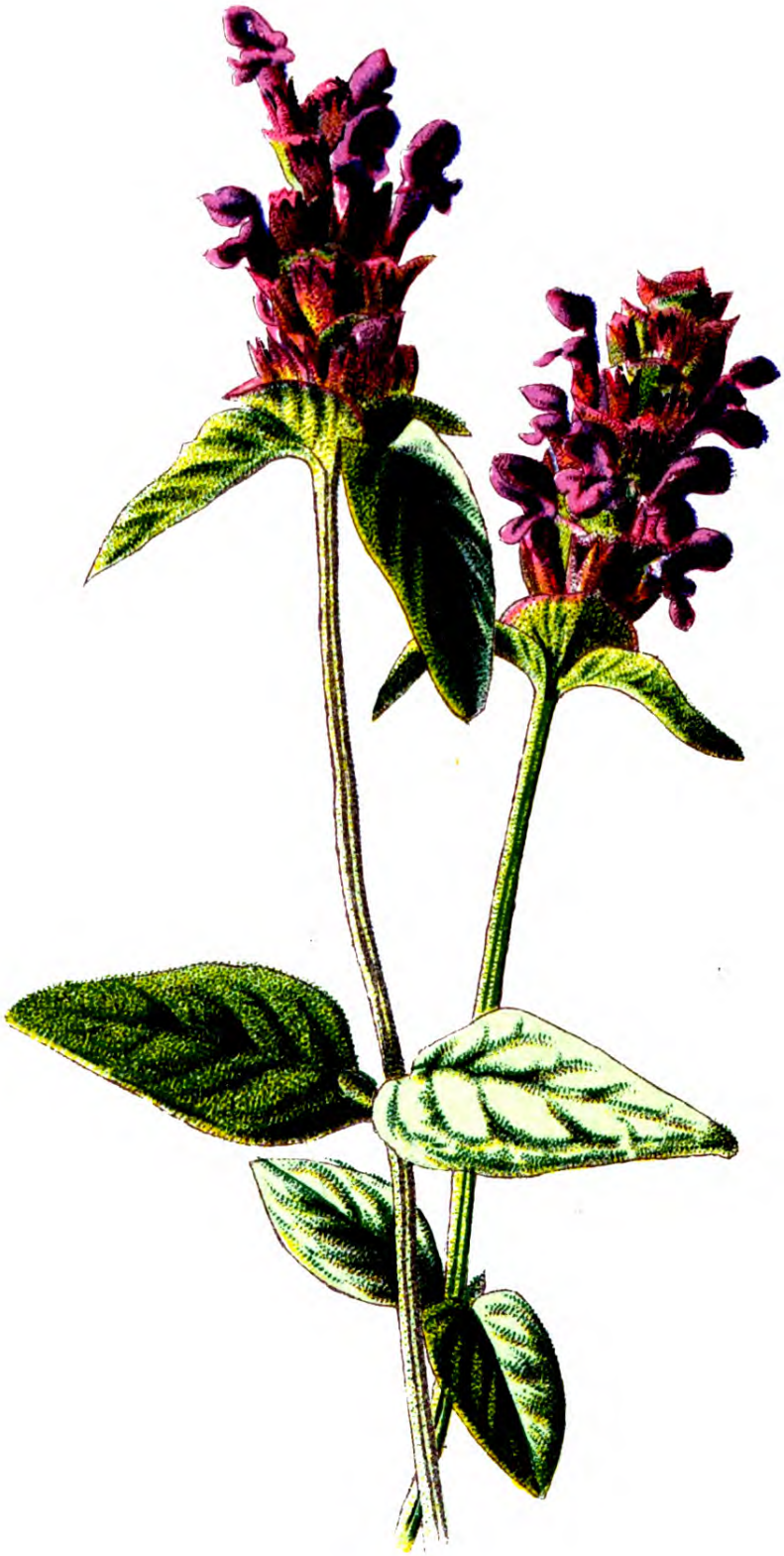
Some botanical names do not strike us as being particularly happy in their choice, or as conveying any special meaning or appropriateness, but the scientific title of the corn marigold cannot be included amongst these, for its generic name signifies the golden flower, and its specific title that which pertains to corn-fields. It is the especially golden flower of the harvest field. Some authorities tell us that the English name is really what a glance at it would suggest—that it is the golden flower dedicated in monkish times to the Virgin Mary; but it is probable that this meaning is an afterthought. The marsh marigold derives its name from the Anglo-Saxon words "mersc" and "gealla;" signifying "marsh" and "golden flower," and other bright yellow flowers, like the present species, though they may have no connection with the marsh, receive the name of marigold. Some old writers call the plant merely the golde, and in Wales it is the "Gold yr yd." There is a rich auriferous look about the first word of this name that, even in one's ignorance of Gaelic, gives justification for including the Welsh title amongst the others, and claiming for it a similar intention and meaning. A local name for the plant is the bigold; which Prior, in his

excellent work on the popular names of British plants, tells us signifies tinsel or false gold, applied to the present species because it is not the true golde, or *Calendula officinalis*. The white ox-eye, or *C. leucanthemum*, a plant we have already figured and described, belongs to the same genus, so that our marigold naturally sometimes gets called the yellow ox-eye. Gerarde calls it the golden cornflower, and its association with the true cornflower, or blue-bottle (*Centaurea cyanus*), in the harvest has, in some parts of the country, earned for it the name of yellow-bottle.

The corn marigold is almost everywhere abundant, farmers would say too abundant, and will be found in flower throughout the summer and autumn, until the sharp sickle of the reaper lays it low. On turning over our own botanical notes, we see it recorded that we found a specimen, still well in flower, on December the thirty-first; but June to October, inclusive, would be about the normal state of affairs. Both here and abroad, the strong arm of the law has been invoked for its destruction; Threlkeld tells us that, in Britain, "Mannour courts do amerce careless tennants who do not weed it out before it comes to seed," and we find enactments against those who do not keep it under in their fields, not only in England and Scotland, but in Denmark and Germany.

Gerarde's description is very pithy; it is as follows:— "Corne marigold, or golden corne floure, hath a soft stalke, hollow, and of a greene colour, whereon do grow great leaves, much hackt and cut into divers sections, and placed confusedly, or out of order; vpon the top of the branches stand faire starlike floures, yellow in the middle, and such likewise is the pale or border of leaves that compasseth the soft bal in the middle, of a reasonable

pleasant smel." So many of the composite flowers have a strong and somewhat disagreeable odour, that the fact of our present plant being "reasonable pleasant" is distinctly worth record. Another old writer says of it "Smelling a little sweete;" he again, it will be noticed, being careful not to commit himself too deeply to an expression of approval of its fragrance. Those plants that grow in rich soil assume a soft luxuriance compared to those that by stress of circumstances have had to make a harder fight for existence; the pampered children of fortune having less of the richness of outline that is so pleasant a feature in the foliage of this plant. We have heard of the plant being used as a pot-herb, but have never experimented on it ourselves; it has a soft and succulent look that rather suggests such an application, but, probably, we shall remain content with the suggestion.



SELF-HEAL.

Prunella vulgaris. Nat. Ord., Labiatæ.

FEW of those who have sufficient interest in our wild flowers to take up our book at all will find the self-heal a plant unfamiliar to them, for its heads of purple flowers spring up amidst the long grass in profusion in almost any piece of meadow-land and pasturage. The plant is an annual, and every year there is a bountiful dotting over of rich violet in the long waving grass of the hay-field. The self-heal is ordinarily a sign of poor land, and grows most freely in moist situations, in what one hears farmers call a "cold" soil. Its blossoms should generally be looked for in June and July, but on hedge-banks and other situations where the mower's scythe does not cut short its career it may at times be found flowering throughout August. The root of the self-heal is exceedingly fibrous. The stems creep a good deal, and send down roots from their lower joints, and the flower-branches ascend to a height varying from a few inches to a foot or more. In open and exposed situations the plant is diminutive, while in more sheltered

spots it is larger in all its parts. The specimen we selected was fully a foot in height, but then it grew amidst the long grass of a country churchyard, and so got drawn up to the light in the general struggle for existence. The stems are often deeply grooved and rough to the touch; but here, again, the circumstances of the plant's life largely influence the habit. Like many another denizen of earth, a hard lot furrows and roughens it, while the sunshine of prosperity removes many an angle. The stems, and especially the lower portions of them, are often tinted with reddish-purple, and the whole branches freely, lateral stems being thrown off in pairs at almost every node, and increasing in length the lower their position on the main stems. The leaves are placed in pairs opposite to each other, and are borne on short foot-stalks. In form they are what is termed ovate—oval, with a more pointed extremity. It will be seen in our illustration that they stand boldly out from the stem: a very characteristic feature in the plant. They are often a little harsh and rough to the touch, from a number of little prominent points on their upper surface, and their outline is either one continuous line, as in the example before us, or they are very slightly indented along their margins. Though our British examples are very much of one character, the self-heal on the Continent is found to vary a great deal in many respects, such as size and colour of the flowers, and more especially in the foliage, the leaves in foreign specimens being sometimes deeply lobed. The flower-spikes are terminal on the branches; at first very short, compact, and cylindrical, but presently opening out somewhat. It maintains much the same size throughout its length, and does not show the gradually tapering form that we often see in the inflorescence of many

other flowers. Immediately beneath each spike of blossoms we always find one of the pairs of leaves, sometimes standing out, like the other leaf-pairs, at about a right angle with the stem, but perhaps more frequently thrown downwards, as in the illustration. The flowers are arranged in dense whorls or rings, and a pair of broad floral leaves is associated with each ring, and adds to the compact, tense look of the whole. There are ordinarily six flowers in each whorl, but they by no means come out simultaneously in any one ring, so that a somewhat ragged-looking head of flowers is produced. The calyx is tubular, and composed of two conspicuous parts, the uppermost of which is flat, and terminated by three small teeth, and the lower one rounder, and divided into long and pointed segments. The corolla is ordinarily of a rich violet colour, though we sometimes find it white or of a reddish-purple tint. When the plant is gathered the blossoms are found to shatter very easily. The tubular part of the corolla projects a little beyond the protecting tube of the calyx, and then opens out into two distinct portions. The upper lip is hollow and dome-like, and very simple in form; the lower lip is cut into three conspicuous segments, the central one having its margin finely toothed. The stamens, four in number, are very curious in form, and any one finding a flowering plant should go in for a little amateur dissection of the parts. The filaments are long and tapering, pale violet in colour, and two of them longer than the other two; each is very curiously forked at its summit, and on one of each of these pairs of forks we find the anther, the other fork having no very visible *raison d'être*. The style is thread-like, much shorter than the stamens, and terminating in a bifid or twice-cleft stigma. The calyx, after the flowering-season

is over, closes up in a very curious manner, to preserve the seeds; these are four in number, rather small, smooth, and brown.

The older name of the plant was "Brunella;" we find it thus given by Dodonæus, Rivinus, and the more modern writer Ray; and on taking down our Tournefort—"L'Histoire des Plantes," published in 1732—we find that he, too, adopts the old spelling. Linnæus, Bauhin, Fuchs (the botanist in whose honour the fuchsia is named), and other writers call it "Prunella," preferring the softer sound of the word, but in so doing losing sight of its meaning. Hooker says that the name of the plant is derived from the German word "braüne," the quinsy; and Parkinson tells us, "this is generally called prunella, and brunella from the Germans, who called it brunnellen, because it cureth that disease which they call die bruen, common to soldiers in campe, but especially in garrison, which is an inflammation of the mouth, throat, and tongue." Amongst the old herbalists' names for it we find the carpenter's herb, sickle-wort, hook-heal, and slough-heal.

CHARLOCK.

CHARLOCK.

Sinapis arvensis. Nat. Ord., Cruciferæ.

WARTON, in one of his poems, on the Spring, has the following lines :—

"O'er the field of waving broom,
Slowly shoots the golden bloom ;"

and these lines naturally occur to us when the charlock comes into our thoughts. It is one of the most troublesome weeds with which the farmer has to contend, and as we watch the green cornfields during June slight indications of charlock are first seen, and day by day, as more blossoms expand, the streak of yellow becomes larger and more pronounced, until sometimes the interloper appears at the distance to be some legitimate field-crop, so largely does it take possession of the ground, while the whole expanse glows with its golden yellow. There are three plants that are most especially found in cornfields, that are all fairly common, and that are apt to be indiscriminately called charlock ; these are the present plant, the *Sinapis alba,* and the *Raphanus raphanistrum ;* the first and

the last are by far the most abundant, but the *Sinapis arvensis*, the plant we here figure, is the true charlock, and the most noxious of the three. The appreciation in which it is held may be seen in the "cornfields, too frequent," of Hooker, and the "one of the most abundant weeds of cultivation through Europe, and but too common all over Britain," of Bentham. Some of the earlier blossoms may be found towards the end of May, but June is the month in which ordinarily it is most abundant, though in some localities specimens may be found in July. Linnæus and others of his time not only considered that it was injurious to the growing corn, but they had an idea, too, that its seeds would get amongst the grain and impart some hurtful effect to the flour; there would appear to be, however, no proof of this: on the other hand, the plant is a favourite with bees, and this means a plentiful yield of honey to their despoilers, and the whole plant, when young, is often eaten by agricultural labourers, and forms a by no means bad substitute for other vegetables.

The charlock varies very much in appearance in different plants and under varying conditions of growth; when found amongst the standing corn it is taller and less branched than when growing on roadside rubbish; it varies too in degrees of hairiness, and the stems are sometimes green, sometimes purple or crimson, but the flowers do not seem subject to any variation of tint. The plant is an annual, and may therefore be comparatively easily eradicated if it be pulled up before seeding-time; hence the farmers are often put to a considerable expense in uprooting it from the growing crops.

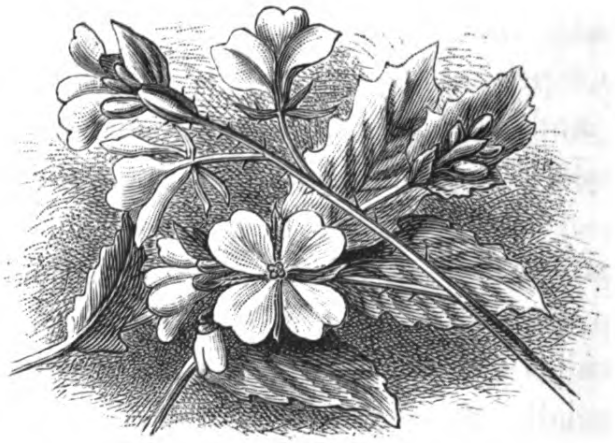
The plant is from one to two feet high, the stems upright, branching, grooved, and clothed often with short

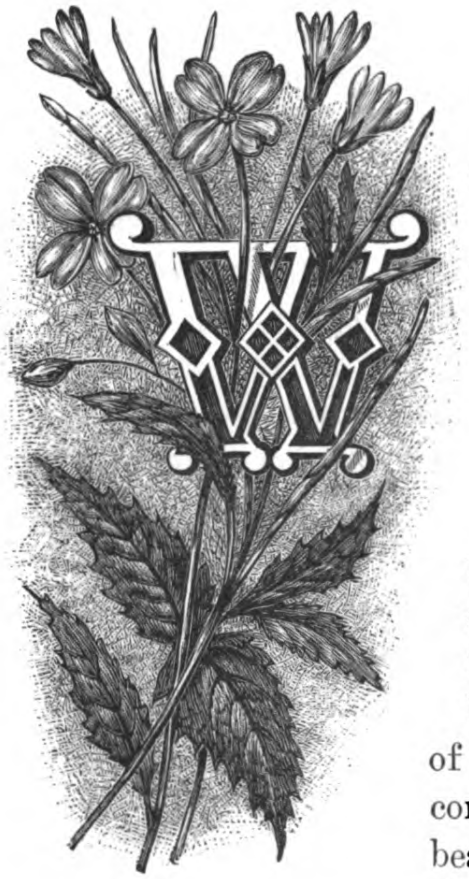
hairs. Our specimen is a young and succulent plant that was grown amongst the sheltering corn; specimens that have grown in more exposed situations are more solid-looking, partially or wholly red in tint, and covered with hairs. The leaves are arranged alternately on the stalks, are borne on short stems, are thrown boldly out from the plant, and are rough to the touch. The veins are conspicuous, and the margins indented or coarsely serrated. The upper leaves, as may be seen in our illustration, are simple in form, while the lower often have one or more lobes at their bases, and present a more irregular outline. The flowers are rather large, the four heart-shaped petals standing boldly out in a cross form. Like all the other cruciferæ, the charlock has six stamens, two being shorter than the other four, but as they are similar in colour to the petals they do not attract attention. The calyx, it will be noticed in our figure, is very spreading, and consists of four sepals. The seed-vessels seen in the drawing are at an early stage of their history; when they reach maturity they form rounded pods, some one and a half inches in length, terminating in a pointed beak. The ripening pods are often reddish or purplish in colour, and each contain some six or seven small blackish seeds. Pigeons and other birds are very fond of these.

Dodonæus discourses about the plant as follows:— "Charlocke growethe in all places alongst the wayes, about old walles and ruynous places, and oftentimes in the fieldes, especially those where as turneppes and Nauewes have been sown, so that it shoulde seeme to be a corrupt and evill weede or enimie to the Nauew. This herbe is called of the later writers *Rapistrum*, and of some also

Synapi; in French, *Velas* or *Tortelle;* in high Douche, *Hederich;* in base Allemaigne, *Herricke.* This herbe of the late physitions is not used in medicine, but some with this seede do make mustarde, the whiche they eate with meate in steede of mustarde, although it be not al thing so good. It was reckoned of Theophrast and Galen amongst those seedes wherewithall men used commonly to prepare and dresse their meates." Another old writer gives amongst "the vertues," the following:—"The seede that growethe naturally wilde is hotter than that which is manured and sowen, and more bitter also, whereof some do make use instead of mustarde seede, or mingle it therewith." He also commends the oil expressed from the seeds as a preferable substitute for "the Traine Oyle which is made of the Whale."

The generic name *Sinapis* is derived from the Greek word for mustard; while the specific title *arvensis* indicates the locality where it flourishes.





SMALL WILLOW-HERB.

Epilobium montanum. Nat. Ord., Onagraceæ.

WE have already included in our series one species of Epilobium, and a much finer plant than the present; the small willow-herb, however, if not so striking a plant as the great willow-herb, the *E. hirsutum*, is quite as familiar a wild flower, and, therefore, claims full recognition at our hands. It has a grace and lightness, too, of its own, that makes it no unfit companion for the large number of beautiful plants with which it here finds itself associated—the silver-starred anemone, the ruddy orpine, the curious milk-thistle, the hardy thrift, the golden stone-crop, the delicate bladder-campion. The small willow-herb is very abundant nearly everywhere in Britain, and, in fact, seems to be almost cosmopolitan. It should be looked for—or rather, we will say, it may be found, for a plant so common needs little searching after—on waste or cultivated ground, the roadside or the garden, often on the thatch of the cottage roof, on old stone walls, or in woods. It is a perennial, and flowers during June and July. Some of the old cottage roofs

become quite gay as the thatch grows old and somewhat furrowed, as there thus becomes a holding-ground and the necessary dampness for the propagation of various seeds that find their way there. How they ever manage to do it is a puzzle. The seeds of the willow-herb, being light and feathery, will find their way anywhere, like those of the thistles, hawk-weeds, and groundsel; but we remember this summer often noticing one particular roof on which, besides the plants we have mentioned, and grasses, and many other things, there were handfuls of poppies and several sturdy wheat-plants. Possibly, an ear or two of wheat may have been retained in the straw after thatching, though in that case we should imagine they would have thrown up their delicate green blades the following season, and would not have waited till lapse of years had made re-thatching one of the immediate questions of the future. And how, in any case, did the poppy-seeds find their way there? The same thing often strikes one in the case of the grand flower-borders that often fringe the summits of the walls of old ruined abbeys and other buildings. In a place that seems inaccessible, and where no foothold seems possible, we may see the wild rose throwing out branches a couple of yards long, and elders with stems as thick as a man's wrist, to say nothing of ox-eye daisies, stone-crop, corn-marigolds, poppies, ivy-leaved toad-flax, snapdragon, wall-flowers, and many another gay adornment of the old flint walls, all thriving where the nourishment is of the scantiest, the drought the most searching, the wind the keenest.

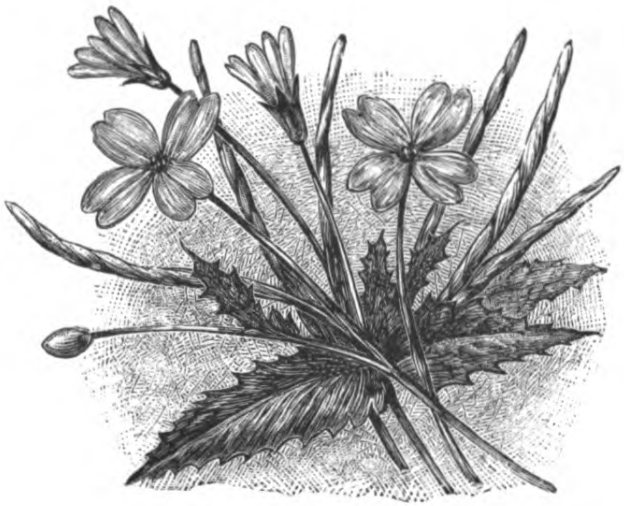
The small willow-herb is a great pest when found in cultivated ground, and when it is once fairly established in a garden, it seems to be impossible to eradicate it. It has two

features that enable it to command the situation—a long and very fibrous root, of which the smallest portions left in the ground possess a wonderful vitality; and an apparently unlimited supply of seeds, all duly provided, like those of the dandelion, with the means of wafting themselves away from the parent plant and scattering themselves far and wide.

The stem of the willow-herb is upright, and ascends to a height of some two feet, or even a little more if amongst other plants; it is round in section, very slightly downy, often quite simple in character, but occasionally branching a little near the summit. When it branches at all, these branches are in pairs. When the plant grows amongst others in the shelter of a garden, its stems and leaves are alike green; but in more exposed situations the stems are often a deep crimson in tint, and the lower leaves are various tints of brown, crimson, and yellow, gradually passing into the bluish-green of the upper leaves. The leaves are generally in pairs, but we may occasionally find a plant in which they are arranged in threes or fours—a variation to which most of the species of willow-herb seem subject. Most of the leaves are on short stalks, but some of the upper ones will be found almost or entirely stalkless. They are of the form botanically termed ovate, a good deal pointed at their extremities, and having their margins finely notched, like the teeth of a saw. The lines of the veining are rather prominent, and the upper surface of the leaf is often slightly hairy or downy. The calyx crowning the long tapering ovary is deeply cut into four lobes. The corolla is composed of four heart-shaped petals, deeply notched, of a pale purplish-pink tint, and, when fully expanded, spreading widely outward. The stamens are

eight in number, four being considerably longer than the other four; the stigma four-cleft; the lobes spreading, and forming a cross-like form at the summit of the style; the capsular fruit long and slender, splitting open when ripe, and disclosing the numerous small and downy seeds. As the segments of the fruit dry and curl back, the seeds are liberated, and, by means of the tuft of hairs with which they are each terminated, they are dispersed by the wind.

The generic name, *Epilobium*, is a very happy one; it is derived from two Greek words, signifying *upon* and *pod*, from the growth of the flowers on the summits of the pod-like ovaries. *Montanum* is Latin, and signifies pertaining to mountains, a not very appropriate designation for a plant that is abundant almost everywhere. The English names, willow-herb and willow-weed, were suggested evidently by the shape of the leaves, though the leaves of the various species of willow, while partaking of much of the character of the plant we figure, are more slender in proportion to their breadth.



FEVERFEW

FEVERFEW.

Matricaria Parthenium. *Nat. Ord.*, *Compositæ.*

SO many plants present to the untrained eyes features not dissimilar in many respects to those of the present plant that the uninitiated may be excused if they hesitate to affirm offhand that they know the feverfew directly they see it. The composite order comprises in almost every region of the world an enormous number of species. The English plants alone are placed in over forty genera, and some of these in turn, as *Hieracium*, contain many species. However they may differ in minor points, the one great feature in which they agree is the composite flower-head, each so-called flower of the ordinary observer being in reality the aggregation of a considerable number into one head. In many the florets of the disk and of the ray are alike yellow—the hawkweeds, the goat's-beard, and the dandelion are examples of this; and in others, as in the present plant, the centre is yellow, and the surrounding rays are white—the ox-eye and the daisy are

very familiar illustrations of this. Others, as the salsify (*Tragopogon porrifolius*), are purple, or blue, as in the blue sow-thistle (*Mulgedium alpinum*), the chicory (*Cichorium Intybus*), or the corn-flower (*Centaurea Cyanus*); but the greater number of species are either some tint of yellow, or a combination of yellow and white. The tint of the yellow varies a good deal in various species; in some it is almost orange, in others a clear, pure golden yellow, and in others, again, sulphur-coloured. The present plant suggests the idea of a number of daisy-heads that have somehow left their low estate and had a rise in life, though we miss the rich crimson tipping of the under surfaces that we all know so well.

The root-stock of the feverfew is perennial. The stems attain to a height of some two feet, and branch a good deal at the upper extremities, though, as all the branches leave at a slight angle, the general upright look of the plant is preserved. This freedom of branching and the upright effect of the plant as a whole may be very clearly seen in our illustration. The leaves, it will be seen, are of the kind termed pinnate, or feather-like—a central line and lateral portions given off from it—and each larger mass is again cut into, so as to produce the form known botanically as bi-pinnate, or twice pinnate. The upper ones, the only ones that the small size of our page would allow us to show, are simpler in form than those lower down the plant, and do not show either the depth of cutting into or the number of segments seen in the latter. Even in the few we have represented the progression in form is very marked, those nearest the flowers showing a great simplicity of form when contrasted with the one nearest the bottom of the pages. Besides the larger segments and divisions the

leaves have their outlines clearly and sharply toothed. The foliage is of a bright, fresh-green colour, and, if we may be allowed the expression, rather flimsy to the touch. This latter peculiarity causes the plant to quickly assume a withered appearance when gathered and carried in the hand, though a prompt plunging into water will quickly restore matters again. The delicacy of the leaves makes them speedily show either injury or care taken with them. The flower-heads are numerous, from half an inch to an inch in diameter, and as the lower ones are on longer stems than the upper, the general mass of blossom in the plant is all at about the same level. The numerous flowers, with their brilliant golden eyes and pure white rays, give the plant a very bright and cheery look. The whole plant has a somewhat strong smell, and the leaves have a decidedly bitter taste; and it has been suggested that a decoction of it might be efficacious as a tonic. It does not, however, follow that, because tonic medicines are often bitter, we may assume that bitter things are therefore tonic.

The feverfew should be looked for on waste ground and in the hedgerows. It is generally dispersed over Britain, but does not seem to be anywhere very abundant; Bentham suggests that it may not perhaps be truly indigenous. It is one of the later flowers of the year, and should be searched for from July to September. As it has long been held in medicinal repute in rustic practice and precept, it may not uncommonly be found in the cottager's garden, and a very double variety may often be found in gardens of higher pretensions. In the garden variety the only difference is in the compact, almost ball-like, flower-heads; the foliage and general growth resemble that of its hedge-

row brother. The name feverfew, like the monkish febrifuga, testifies to the belief in its remedial powers, for fevers are few, and fly away where this plant is held in proper estimation. With some old writers the name is featherfew, and this suggests some connection between the name and the pinnate character of the leaves; but there is little doubt but that featherfew is only a perversion and corruption of the more ordinary name. Gerarde, we see, gives it as fedderfew.

Feverfew "dryed and made into powder, and two drammes of it taken with honey, or other thing, purgeth by siege Melancholy; wherefore it is very good for such as have the giddinesse and turning in the head or swimming; for them that are purse or troubled with the shortnesse of winde, and for melancholique people, and such as be sadde and pensive and without speach. The greene leaves, with the flowers of feverfew stamped, is good to be layde to the dissease called the wilde fyre, or Saint Anthony's fyre."

THRIFT.

Armeria maritima. Nat. Ord., Plumbaginaceæ.

WHEREVER we get a piece of muddy sea-shore, there we may feel little doubt of finding any quantity of the thrift, or sea-pink. By far the best place to look for it is where some river, after many a devious curve through the lowlands, brings its tribute of muddy water to the clear and bright salt water of our encircling sea. On the shores of such a river large banks of sediment are formed, often creating salt marshes for some distance inland, into which at high tide the sea penetrates by many a winding channel. We remember to have seen such spots on the Sussex Adur, the mouth of the Ribble, in Lancashire, and where the sluggish Axe and Parret bear in the west their contributions of mud and water to the estuary of the Severn; and in all these river deposits the ground was thickly covered with the verdure of the thrift—so covered, indeed, that at a little distance the effect was that of a meadow by the water-side.

In our boyish days we spent many an hour wandering over such marshes. The restless hurry and motion of the sea dies away as its waters penetrate by innumerable channels into the low-lying land, and many a clear pool of salt water holds within its quiet bosom quaint forms of sea-life or the rich colours of the sea-weed. There too we may find the samphire and many another lover of the salt water; but in such a place the soft turfy cushion that receives us as we spring across the water-channels is the dense foliage of the thrift.

The root of the thrift forms perennial tufts from which numerous grass-like leaves ascend. It is a particularly easy plant to transfer to the garden, and it is curious that it should be so, for as Drummond points out that the sweet rose would die if transferred to the salt sea moisture, so we should imagine that the salt air and moisture in which the thrift grows so healthily would be more essential to its well-being than seems to be the case. We have any quantity of the plant in our own garden some sixty miles from the salt sea foam. It makes a very beautiful garden edging, and is full to us of present enjoyment and of happy memories of the past. The plant increases very fast, and can be taken up each year and freely divided at the roots; a long broad edging of it—a mass of verdure below, and above this its countless crimson flower-heads—is a really beautiful feature in the garden. Its charms have appealed to many a generation, for we find Gerarde writing that the plant is "found in the most salt marshes in England, as also in gardens, for the bordering up of beds and bankes, for the which it serveth very fitly;" and when he comes to the usual heading of "the vertues," he is fain to

confess that "their use in physic as yet is not knowne, nor doth any seeke into the nature thereof, but esteeme them onely for their beautie and pleasure." Parkinson, from the general appearance of the plant, included it amongst grasses, and, as he cannot definitely assign it any valuable medicinal qualities, assumes them, rather than disappoint himself and his readers, for he says: "It is generally held that the root of the sea quick-grass is as effectuall as the ordinary or common sort, and therefore for the qualitie I shall referre you to be enformed there where I speake of it, that so I may avoide a double repetition of the same things. This difference between theese and those of the land hath beene observed that cattle will not feede on the leaves of these by reason of their hardnesse, roughnesse, and sharpnesse, whereas they refuse not the other." This latter fact we should have thought would have set the old herbalist on his guard, for we never see any cattle or horses browsing in these sea-meadows, and where they so readily detect that thrift, after all, only has the appearance of grass, and none of its true nature, it is hardly fair to suffering humanity to assume that practically it all comes to the same thing which is used. Can our old author have had a dim suspicion that it did really come to very much the same thing which broken reed his patients trusted to?

It is a very curious thing that this plant, so characteristic of the low-lying salt marshes, and so thoroughly at home there, is equally at home in a very different locality, the breezy summits of some of the highest Scotch mountains.

The flowering stems of the thrift are simple in character, and rise at once from the cushion-like tuft of

verdure. On each plant they are very numerous, and as the thrift blooms from May to September, a constant succession of them is thrown up. They vary somewhat in height, and would ordinarily be a little longer than those we have figured, in some cases half as long again. In some cases these stems are only three or four inches in height, but ordinarily the blossoms appear to be well lifted above the mass of foliage from which they spring. Each stem bears on its summit a globular head of bright pink flowers, having a curious inverted cylindrical sheath beneath, a peculiarity that can be readily noted in the figure. The blossoms vary occasionally in strength of colour, and are sometimes found pure white. As the flowers die they fade into a pale brown, and the harsh, paper-like scales that are intermixed with the flowers in the head become conspicuous. The corolla is formed of five regular petals; the calyx tubular, terminating in five short teeth; the styles and stamens each five in number.

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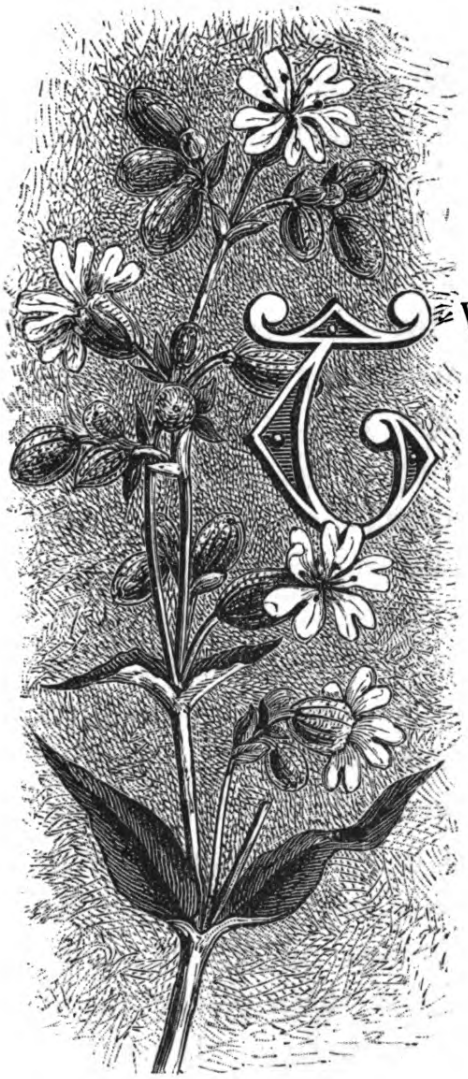


BLADDER CAMPION.

Silene inflata. Nat. Ord. Caryophyllaceæ.

TWO or three of the campions—the white lychnis, the ragged robin, and the corn cockle—we have already illustrated in our series, and the only two other species that are sufficiently common to call for a place in our pages are the pink campion and the present species. Each year, at the same spot in our garden hedge, a specimen of this graceful and delicate plant springs up for our admiration; and while the gardener has full liberty in the matter of dandelions, groundsel, and many another wilding that has been so unfortunate as to display its attractions where they are unwelcome, our *Silene* is hedged about by household legislation that protects it from the spoiler. The stems are erect and loosely branching at their base, the few divisions into which they separate all preserving the general upright and slender character of the plant. These stems are ordinarily from one to two feet

high, though on open pasturage and exposed roadsides they sometimes fail to reach the former height, while we have sometimes seen them, when they spring up amidst a sheltering hedge or beneath the shadow of trees, attain to a greater height than the two feet we have given as the outside measurement of average plants.

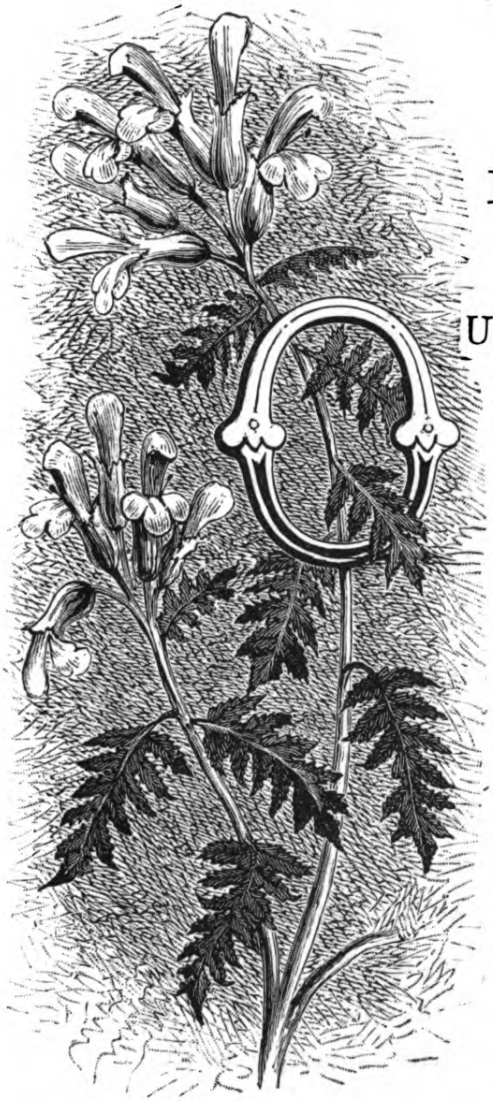
The form of the foliage is simple, and the outlines are merely continuously waved lines; there are no lobes or serrations. The leaves, too, are always in pairs, and the stem thickens at the points whence they are given off. We see this opposite growth of the foliage and swollen stem in all the campions, and, indeed, in all the members of the order. Garden pinks and carnations supply a very good illustration of this. The bladder campion varies somewhat in the size and shape of its leaves, some specimens showing either larger or more attenuated leaves than those we see in our illustration; but the departure from the type is not extreme in character, and those who have our illustration before them will have no difficulty in identifying any specimen of the plant that comes in their way, as it is a very typical piece. The flowers are fairly numerous as they grow in graceful terminal clusters on the summits of the slender stems, and the purity of their colour tends to make them more conspicuous and attractive. It will be noticed that they are ordinarily slightly drooping. The petals are five in number, though each is so deeply cleft that, at a hasty glance, they appear much more numerous. There is often a small scale on each petal at the point where the broad and spreading part terminates, and these form a little ring or crown round the centre of the flower. These little scales may, however, be much better seen in some of the other species, as in the bladder campion they

are always small, and are often entirely absent. The calyx, from its size and inflated character, is a very conspicuous feature; it rapidly increases in size as the buds swell and open and develop into fully-expanded flowers, and these in turn give place to the fruit. The calyx is very light in colour, of a more yellowish green frequently than the rest of the plant, and very prominently veined and reticulated. The whole is of one piece, or what is botanically termed monophyllous, but it bears at its summit five large teeth. The stamens are ten in number and the styles three. The bladder campion should be looked for in pasture-land, on railway banks, waste places, and by the roadside. Its flowering-season is from June to August. It is commonly distributed over Britain.

The word campion is said to be derived from the use of the flower as a wreath for the champions at the public games in the middle ages. This may possibly have been so, but it seems in the last degree unlikely, as the plants would have to be searched for far and wide to procure them in sufficient quantities for any considerable number of chaplets, and all the campions droop very quickly after gathering. Many other and more suitable plants could be obtained for the crowns of the victors. The prefix to our present species refers, of course, to its bladder-like calyx, and the specific title *inflata* scarcely needs translation, so evidently does it bear its meaning on its face. The plant was once called the cucubalus, a word derived from the Greek words signifying a bad or noxious growth. It is evident that the name, first employed by Pliny, has been diverted from the plant to which he applied it, and to which it may have been most appropriate, and has by some

mediæval misconception been given to a plant altogether innoxious. The bladder campion is in some parts of the country called white-bottle. We are told by some authorities that the young shoots of the plant may be used as a substitute for asparagus, but on the whole we should think asparagus as a substitute for campion would be preferable. The leaves, too, are said to be not unpalatable when boiled, but we imagine there is much more theory than practice in these recommendations; we can hardly imagine any one laboriously blanching the young shoots, or filling a basket by slow degrees with the foliage of the plant. The bladder campion, though commonly distributed, is not to be found in abundance in every pasture; and those who would desire to collect its leaves would have to wander throughout a long summer's afternoon before the basket got filled. "It is said to be so effectual against the scorpion, that this herbe cast upon one doth make him of no force to envenome any." A plant so potent may be well content to forego culinary fame.

LESSER RED-RATTLE.



LESSER RED-RATTLE.

Pedicularis sylvatica. Nat. Ord., Scrophulariaceæ.

OUR name for the present plant sufficiently indicates the existence of a second species, for a lesser red-rattle implies a greater red-rattle, but we have selected the present species, though it is the smaller of the two, because it is considerably the more common. It is a perennial, and should be looked for in moist pastures and swampy heaths and wastes. The plant begins to blossom in the spring, and lasts all through the summer, so that any time from April to August we ought to finds its delicate pink blossoms. Our expression, "should be looked for," is a sufficiently accurate one, for though the plant is commonly distributed over Britain, its small size does not make it by any means noticeable. The piece we have chosen for our illustration was springing up amongst the roadside grass, and is an exceptionally

drawn-up specimen; the plant ordinarily nestles more closely to the ground, and varies from three to five inches in height. The stems are prostrate and spreading, branching a good deal at the base. The leaves of the lesser red-rattle are very deeply cut into lateral and numerous segments. The calyx is smooth on the exterior, but woolly within at the mouth, broadly inflated, and marked over with a fine reticulation of veins. At its summit it is cut into five unequal lobes of a foliaceous or leafy character. The corolla is tubular within the calyx, and opens out at its extremity into two very distinct parts, an upper lip of very simple form, dome-like, but compressed at the sides, and a lower lip flatly expanded and cut into three very distinct lobes, forming altogether both in form and colour a very quaint and attractive-looking flower. The stamens are four in number, two being longer than the others; one pair has numerous hairs near the summit, the other pair being perfectly smooth.

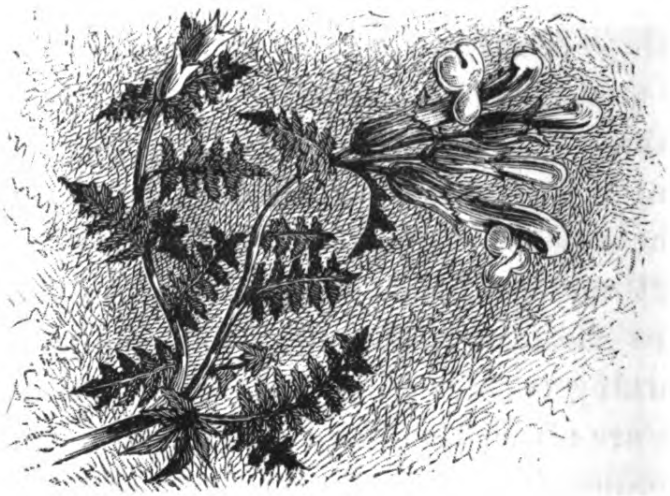
We have already figured a near relation of the present plant—the yellow-rattle or *Rhinanthus crista-galli*. These plants all derived their names from the fact that as the seeds ripen they may be heard rattling within their capsules when the plant is shaken. "There be two kindes of rattel grasse, one which beareth redde floures and leaves finely jagged or snipt, the other hath pale yellow floures and long narrow leaves snipt like a sawe round about the edges. The first kind hath leaves very smal, jagged, or dented, spreade abroade upo the ground. The stalkes be weake and smal, whereof some lye along trayling upon the ground and do beare the little leaves, the rest do growe upright as high as a man's hand, and upon them growe the floures from the midle of the stemme round about

even up to the top, somewhat like to ye floure of the red nettle. The which being falle away there grow in their place little flat powches or huskes wherein the seede is contained." Many of these old descriptions, quaint as they are in expression and spelling, go closely home to the root of the matter, and in most cases describe very accurately the details of the various plants. The foregoing is from Lyte's translation of Dodonæus.

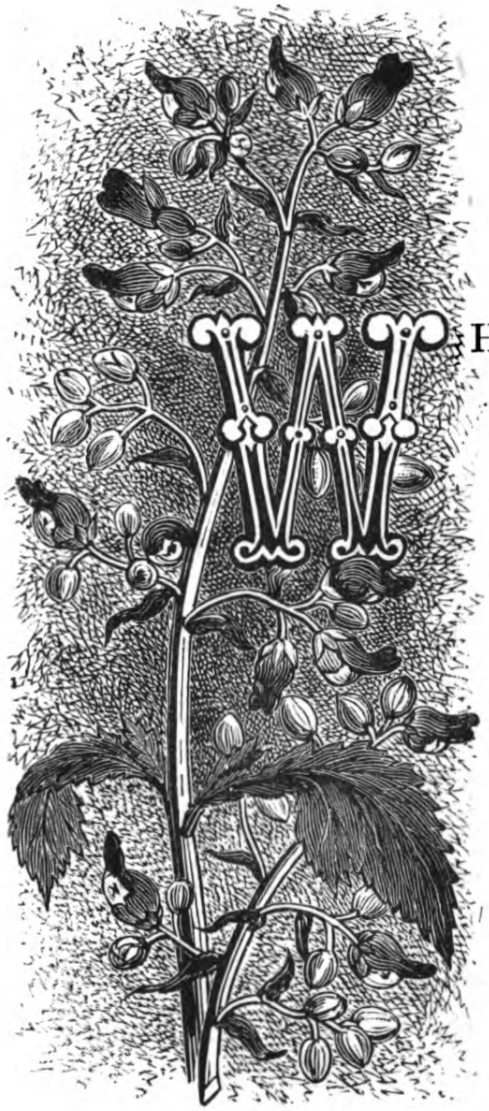
The presence of the red-rattle is ordinarily an indication of defective drainage, but this clearly is no fault of the plant, though it has had to bear a good deal of unmerited abuse in consequence. It is a great pity that a delicate and beautiful plant should be called foul names, but we are bound to add that the name by which it is best known and by which it is called by all the old writers, is "louse-wort." This libellous epithet arose from a belief that sheep eating it became diseased and covered with parasites; but when the sheep suffer it is not because of this plant, but because they have been put into marshy and unwholesome pastures. The little rattle is in reality a benefactor, for it indicates where the marshy places are, and marks the spots that need the farmer's attention. The generic title *pedicularis* refers to its supposititious vermin-producing qualities, and hands the libel down to posterity.

On taking down our Parkinson, the "Theatrum Botanicum, or the Theater of Plants," to see what he had said on the subject, the following line in the index was rather startling:—"Yellow Rattle and Red Rattle, 713; The Indians' Rattling God, 1666." We naturally lost little time in turning to page 1666, and were so far edified that, though we are afraid the plant cannot claim much kinship with our pedicularis, except in its power of rattling, we are

sure our readers will be glad to share our find with us :—
"The Portugals possesse a certain country in America called Morpian, which is ful of very good fruits, and among the rest the Nana or Pinas. There is also growing a tree whose fruit they call cobyne, having leaves like to those of the bay-tree, and fruit as bigge as a melon, formed like unto an estridge egg, which, although it is not eaten by any of them, yet is very beautifull hanging on the tree. The savages used to make drinking cuppes of them, but besides that they commit idolatry therewith, which is wonderfull and to be lamented, for having emptyed and made hollow these fruites, they fill them with the seeds of milium or some such thing, which, being shaken with one's hand or withe the winde, will make a noyse; then do they fasten a pole into the ground and sticke this fruite full of those seede on the toppe thereof, and fasten about it the most beautifull feathers of birdes they can get. Every house hath two or three of these fruits decked up in this manner sticking on the poles, which they have in great reverence, thinking some god to be in them, because when they are shaken they make a noyse."



WATER FIGWORT.



WATER FIG-WORT.

Scrophularia aquatica. Nat. Ord., Scrophulariaceæ.

WHEREVER we find a river, weed-bordered pool, or water-course of any kind, there we may fairly hope to find the plant here figured, though, as it has little to commend it, when we compare it with its fellows, the forget-me-not, the water-lily, the flowering rush, or the purple loose-strife, it, no doubt, ordinarily gets over-looked. The blossoms have a lurid colour and fantastic shape, that give the plant a somewhat weird and uncanny look, and one finds it difficult to imagine that any one could even have thought it a remedy for any of the ills of life, though its generic name is a sufficient indication that it has in the past been so held. Curtis, in his "Flora Londinensis," admits that the plant in its wild state has little to commend it as an ornamental plant, but he adds that when variegated few exceed it in beauty. He further tells us that in this state it was in his

day not uncommon in the nurseries about the metropolis. What the degree of variegation was he does not inform us, or whether it consisted of a mottling of the leaves or a change in the colour of the flowers; but the whole habit of the plant is so spare, and the flowers so minute in proportion to the plant as a whole, that any possible modification could scarcely hold its own amongst gayer plants, and the necessity of planting it in a very moist soil would tell still further against its general usefulness as a plant of the flower-border. Even in a wild state the dull dark purple of the flowers is sometimes changed into white, a modification that almost all red or purple flowers are subject to, as we may see in the bugle, hyacinth, meadow crane's-bill, and many other plants. Cattle do not seem to care for the plant, and its leaves have a decidedly disagreeable smell when bruised; but the bees are very partial to its sombre flowers, and the larvæ of some few species of moths feed on its foliage—a proceeding that tends possibly to its utility in the grand scheme of Nature, but which certainly does not add to its beauty. We almost invariably find the leaves more or less eaten by these caterpillars.

The root of the water fig-wort is perennial, and throws out numerous large fibres. The plant varies much in size, but a height of five feet would be a fairly typical measurement, though at times we find the plants more nearly approaching eight. The general character of the stem is distinctly upright, though from the rigid straight line of the main stem smaller lateral branches are thrown out. In texture the stem is smooth, a feature observable in most water plants, and when cut across the section, is seen to be four-sided, the angles being strongly developed. The stems are often more or less strongly reddish-purple in

colour. The leaves are placed in pairs on the stem, each succeeding pair being at right angles with the pair below it; all are on foot-stalks, and each pair is ordinarily separated by some considerable interval of bare stem from its neighbours. In form the leaves are somewhat heart-shaped, but often more oblong than those we have figured, and the veining is very conspicuous. Hooker truly says that they are "crenate-serrate, cordate-oblong, obtuse," and we leave this statement in all its simplicity, unmarred by any explanations of our own, to the consideration of our readers. The flowers are terminal, and surmount the whole; the inflorescence is paniculate, and at each branching we find a little floral leaf, or bract. The calyx has five conspicuous lobes, and these are fringed by a rather ragged-looking brown membraneous border. The corolla is almost globular, the lobes at its mouth being very short and broad; the two upper ones stand boldly out from the flower; the two lateral ones take the same general direction as the upper, but are much shorter; and the fifth is turned sharply downwards. There are four anther-bearing stamens, and ordinarily a fifth and barren one beneath the upper lip of the corolla. After the flowering is over we find the roundish capsules each containing numerous small brown seeds.

The water fig-wort is sometimes called the water betony, a name at one time the more common of the two. It was bestowed upon it from the resemblance of its leaves to the wood betony, but as it differs entirely from that plant in every other respect, the name may well be allowed to drop. The name fig-wort is derived from the form of the root in one of the species of Scrophularia. The *S. nodosa*, or knotted fig-wort, the species in question, is a fairly common plant. It derives its name from its thick and knotty roots,

the short stock giving forth a number of small tubers. The knotted fig-wort much resembles in its general habit the plant we have figured, though an inspection of the two together would sufficiently illustrate their specific distinction. Its leaves are much more acutely heart-shaped than those of the water fig-wort, and the calyx has only a very narrow margin to the lobes. The stem, too, has not the decided projections at its angles that we see in the plant more especially before us; and the plant, though found in rather moist, cultivated, or waste ground, and in damp woods, is not distinctly an aquatic, like the water fig-wort.

The water fig-wort varies so far in foliage and other respects that a variety called the *S. Ehrharti* has been recognised; while other writers give it full specific value, and recognise its claim to independent existence as a true species. The rare balm-leaved fig-wort, *S. Scorodonia*, is another species of the genus that in many respects resembles our plant: in fact, a strong family likeness runs through all the different kinds of fig-wort.

SAINFOIN.

SAINFOIN.

Onobrychis sativa. Nat. Ord., Leguminosæ.

SAINFOIN, though it is better known probably to most persons as one of the field-crops of the agriculturist, has a full claim to appear in our pages as a familiar wild flower. It is indigenous to Britain, and should be looked for in its wild state on dry chalky hills, in limestone districts, and on the great open expanses of down so characteristic of some parts of Southern England; while its value to the farmer as a forage-plant has led to its wide distribution almost everywhere, though it thrives to best advantage on dry and high-lying lands, and on soils of similar geological character to those it naturally affects. The plant is a perennial of light and graceful aspect, and those who would seek its pink clusters of pea-like blossoms must search the spots we have indicated during the months of June and July.

The stems of the sainfoin are numerous, at first somewhat

prostrate, but at the flowering-season freely ascending and a good deal branched. The leaves are a very good illustration of what botanists call pinnate or feather-like leaves, where several leaflets are thrown off on either side of a central stem, that bears them all in the same way that the central part of the quill of a feather has its lateral fringing. The leaflets are numerous, six to eight pairs to each leaf being about the average number; all are about equal in size, and the terminal leaflet shows no marked difference in bulk. At the base of each leaf we find small and finely-pointed stipules, but the plant has no tendrils. The flower-stalks are terminal and spring from the axils of the leaves, and being considerably larger than the leaves themselves are at once conspicuous; the cluster of flowers occupies about one-half of their length. The flowers are at first densely packed together, but as the blossoms expand the stalk lengthens and the intervals between them increase considerably. Much of the piece we have figured is yet in the early or bud stage, as it was necessary to show as much as possible of the history of the plant in the limited space available, but even here the elongation and spreading-out of the lower portion is distinctly visible. Where the flower-clusters are thrown out laterally they have often a gentle curvature upwards. The flowers are of a delicate purplish pink tint, the standard being a good deal streaked with a darker tint of the same character.

The sainfoin possesses high economic value as a fodder-plant, and on hard chalky soils no plant can be cultivated to greater advantage; but in rich alluvial valley deposits its near relative, the lucerne, should be substituted, as the sainfoin will not prosper except in dry soils. When once planted it will, if need be, last a dozen years or so. Long

before it was utilised in England the plant was known on the Continent as a valuable one for agricultural purposes; and though it is indigenous the earlier supplies of seed were imported from abroad; hence one of its old names, the French grass, the original sources whence the seed was derived being France and Flanders. It seems to have crept into use by slow degrees about the middle of last century, but not to have been fully established till about its close. In 1640, Parkinson speaks of it as "a singular food for cattle," but it seems to have been little if at all used in England at that date. Henzé asserts that the plant was not introduced into England until the year 1651, and in this same year Hartlib, another writer, blames the English for neglecting it. Two years afterwards, in 1653, we find Blith referring to it as a French grass very little known in England, but as having been sown on some of the chalky uplands of Kent; and later on, in 1671, we find another writer saying that "divers places in England received great benefit from it." Its establishment appears, therefore, to have been very gradual, a fact that may perhaps be accounted for by the fact that though it thrives excellently in the localities that are suitable to it, many districts do not prove adapted to its cultivation, and the wilder uplands where it thrives best are more removed from the influence of new ideas. A small quantity of trefoil should be mixed with the sainfoin seed to assist in making a crop for the first year, as the latter is somewhat thin and feeble at first, but when it is once well cultivated it can well stand alone and rely on its own merits. Its common name is French in its origin, being derived from the words *sain* and *foin*, signifying wholesome hay. It was therefore, by some old writers, called the *Sanum fœnum*, or the *Fœnum*

Burgundiacum. Lyte and some other authors give it as Saintfoin, Hudson as St. Foin, and this was rendered by other old writers as holy hay; but the whole thing is a misconception, that when once started was in harmony with mediæval feeling and usage, and so got readily taken up, though there is no real reason for associating any saintly influences with the plant. *Onobrychis* is from two Greek words signifying the ass and to bray, the idea, of course, being that the animal thus testifies his impatience to partake of so agreeable a provender. Some of the older botanical writers give the sainfoin the sonorous title of *Hedysarum Onobrychis.* The first of these names is from the Greek words for sweet and spice, while the second we have already explained, the grand total signifying that toothsome, sweet, and spicy herb that appeals so strongly to the asinine palate, that the donkey cannot refrain from expressing his feelings and desires, when opportunity offers for their gratification.

RAGWORT.

RAG-WORT.

Senecio Jacobæa. Nat. Ord., Compositæ.

OUR present plant suffers from the misfortune of its commonness. Hooker, we see, speaks of it as "too plentiful." Were it not so familiar a plant, its sturdy growth and golden mass of star-like flower-heads would doubtless render it a favourite, but what people can see almost any day they soon cease to regard. We have seen many a tender plant carefully nurtured in the hothouse that has not the inherent beauty of the rag-wort, but then one comes from Java and the other can be got in the next field, and everybody understands what a difference that makes. Where the pastures are mown for hay the plant may be kept down, as the rag-wort, though a perennial, seems unable to thrive under such treatment, unlike many plants that only shoot up more strongly and bushily than ever after being cut down. In pasture-lands and meadows that are not thus annually cleared the rag-wort escapes the bite of the horses and cattle and

develops into a large rank growth, occupying much room, and propagating itself abundantly by its downy seeds. A meadow well sprinkled over with the plants, each of them three or four feet high, and a mass of golden blossom at their summits, is a strikingly picturesque feature in the landscape, though possibly the human occupier of the ground may resent their presence. It is, however, a sight that one so often sees—some meadows having the plants in scores—that we can only conclude that the farmers either lack energy or do not think the space it encroaches on as being of much value; for a boy sent in for half a day would soon level them to the ground and lay their beauty low. It may quickly be pulled up by hand, if only the operation be performed in moist weather; if any considerable fibres be left in the ground the roots strike again. All such plants as the rag-wort or the various species of thistle should, if not absolutely eradicated, be cut down before their seeds ripen and get dispersed over the whole country-side; and this is a particularly easy thing to do, as they can be attacked at most advantage when their golden or purple tufts of flowers render them most conspicuously visible. It has been suggested that the plant might be used for dyeing, but we are not aware that the matter has ever been put to the true test of experience. Many people conclude that if a plant has bright and showy red or yellow or blue flowers, that such plant should yield a good red, yellow, or blue dye; but the properties that make them valuable as tinctorial plants are rarely found in the blossoms, and some of the best vegetable dyes come from plants that have little outward beauty, while the dyes they yield do not agree in tint with the colour of their blossoms.

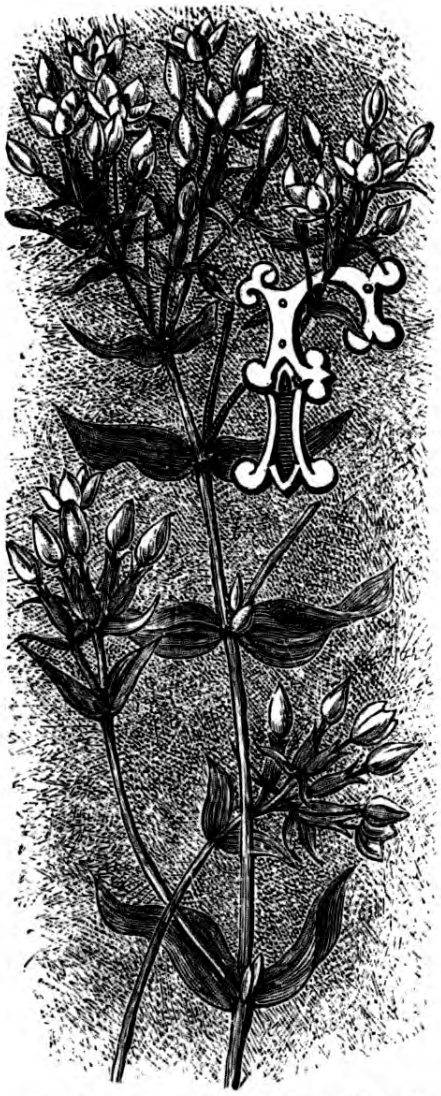
In some parts of the country the rag-wort is accredited with the power of preventing infection. When people visit any one who is suffering from any illness that may be transmitted, they carry with them into the sick-room a piece of the plant, and thus, as they believe, are preserved from taking the complaint, whatever it may be. Some little time ago we heard of a case of an old village woman who had adhered to the practice ever since she was a girl, and still preserved a robust faith in the herbal specific.

The plant is called rag-wort, or rag-weed, from its very finely divided and somewhat ragged-looking leaves, "wort," of course, being the old name for a plant; thus we find awl-wort, bladder-wort, butter-wort, lung-wort, and many other examples. The leaf-segments seem to be more numerous and finer in proportion to the dryness of the soil; a moist soil develops ranker-looking plants, but the foliage, though larger, is not so deeply divided and cut up. The plant is in various parts of the country known under the names of St. James's wort, segrum, or seggrum, stammer-wort, and stagger-wort, and in Wales and Ireland it is known under the somewhat lengthy titles of "carnedd felen wrryw" and "pfullan buih balkisan" respectively. The apostolic title is a relic of mediæval days; in old herbals it is the *Herba Sancti Jacobi*, or the *Sancti Jacobi flos*, and in France one of its names is the *Fleur de S. Jacques*. The Latin word *Jacobus* is the equivalent of the modern James. Parkinson, we see, names the plant the *Jacobæa vulgaris*. "Stammer-wort" would seem to indicate a belief in its efficacy as a remedy for impediment of speech, and the other old names all refer to its supposed value to the veterinary surgeon and cattle-doctor. In an old herbal we find it put down as "a certaine remedie to help the

Staggers in Horses;" while for the diseases of humanity Culpepper tells us that "Rag-wort is under the command of Dame Venus, and cleanseth, digesteth, and discusseth." It is commended as a valuable remedy for sore throat, quinsy, catarrh, and the healing of wounds. It is also highly esteemed as a soothing application.

Entomologists will appreciate the rag-wort as the food-plant of the caterpillar of the beautiful cinnabar moth (*Callimorpha Jacobææ*), its second, or specific name, clearly testifying to its connection with our plant. The colour of the upper wings of the moth is a delicate brown, that bears on it a narrow crimson stripe and two crimson spots, and the hind wings are crimson throughout with a bordering of black. This beautiful moth is common and generally distributed in England, though in Scotland it is an entomological "find," from its great rarity. The larva or caterpillar is slightly hairy, has a black head, and its body is black, ringed with orange-yellow. It should be looked for on the rag-wort during July and August, and will ordinarily be found in companies.

CENTAURY.



CENTAURY.

Erythræa Centaurium. Nat. Ord., Gentianaceæ.

FEW of our wild flowers make a gayer appearance in proportion to their size than the centaury, as its slender stems are crowned by a mass of buds and starry blossoms, that, by the beauty of their colour and the grace of their form, assert themselves conspicuously amidst the surrounding verdure. The centaury should be searched for in dry pasturage, in sandy and barren fields, on heaths, and more rarely in the open spaces, in woods. It is an annual, and flowers from the latter part of June, through July and August, and often well into September; and it is commonly distributed throughout Britain, where the conditions are favourable to its growth. It is a distinguished adherent to the good old principle of "early to bed and early to rise," and proves its efficacy as far as healthiness is concerned; for its early retirement for the day (generally about three o'clock in the afternoon) by no means impairs

its vigour, and if its health does not suffer then doubtless it gains the two other points in the adage, and is both "wealthy and wise," for health is wealth, and its preservation is wisdom. It closes, too, in damp weather, and whenever the sky is overcast. Culpepper, in the fantastic blending of botanical science with astrological folly, so characteristic of the writings of some of the old herbalists, asserts that the plant is "under the dominion of the sun, as appears in that the flowers open and shut as the sun either sheweth or hideth his face." The "dominion" in this case has some little show of reason, but in most instances the assignments of the plants to various heavenly bodies appear of the most arbitrary nature; thus the little celandine is a plant of Mars, the chickweed is under the dominion of the moon, cinquefoil is an herb of Jupiter, the columbine owes allegiance to Venus, and the cross-wort is a plant of Saturn.

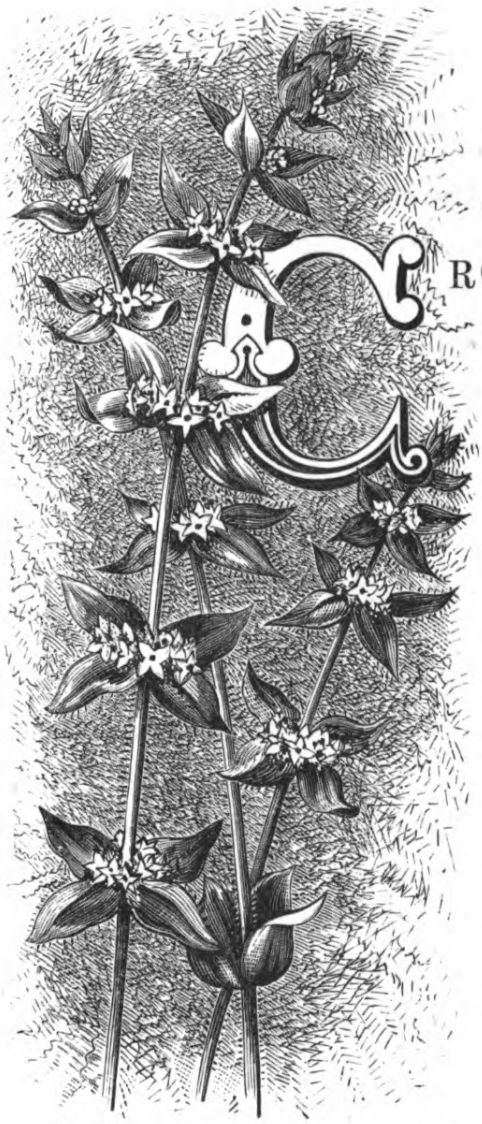
Work of an artistic nature is best done in a room having a northern aspect, as the light is more equable; but we soon found that we need expect no co-operation from our little centaury in favour of that idea, for piece after piece that we brought home we found rapidly closing, and it was only when we took our water-jar and its contents into a room with a southern aspect, and stood them in the direct sunlight, that the flowers could be induced to remain open.

The root of the centaury is fibrous and woody, and from this the stiff and upright stem ascends to a height of from seven or eight inches to a foot. The stem is smooth to the touch and angular in cross-section; it branches considerably at the summit, though the lower part is ordinarily without any lateral developments of sufficient size and importance to break the rigidity of its aspiring ascent.

The lowest leaves are broader than the others, and form a spreading tuft at the base of the plant, while the smooth and stalkless stem-leaves grow in pairs at somewhat distant intervals on the stalk. The stem-leaves are often very upright in general direction, as may be seen in the lowest pair in our illustration, and all have the three principal veins or nerves very sharply indicated on their upper surfaces. The flowers are borne in numerous clusters on the freely-forking stems, and form a rich-looking terminal mass of colour. The calyx is composed of one piece, but this is deeply cut into five pointed segments; these segments taper towards a point instead of spreading outwards, as we find them doing in so many other plants. The whole forms a long and slender tube. The corolla, too, is tubular for some little distance, and then expands into a broad star-like form, the five sharply-cut segments in which it terminates standing boldly out. Though the flowers of the centaury are ordinarily a rich yet delicate pink in colour, we may occasionally come across a specimen where they are pure white. Curtis, in his "Flora Londinensis," speaks of this variation from the type as "not uncommon," but we do not ourselves remember having ever seen an example of it; and Parkinson, in writing of the plant, says that "it is found in our owne countrie in many places, the ordinary sort almost everywhere in fields, pastures, and woods; yet that with the white flowers more sparingly by much than the first." He is very careful, too, to make us understand that this colour-variation is, so to speak, an accident that concerns the flowers alone, and holds out no justification whatever for considering it a different plant at all, for, in speaking of it, he says with quaint decision, "This small centory differeth not from

the former, neither in stalke nor leafe, neither in forme or height, but only in the colour of the flower, which is white as the other is red." The stamens are five in number; their anthers have a curious way of twisting themselves round after they have shed their pollen. This spiral twist is a very marked feature in the genus; though a point too small to show in our illustration, it may be readily noted in the living plant. It is one of the distinctive points between the plants of this genus and those of gentiana, many of the plants of which greatly resemble the centaury in general structure. The style is single, but terminates in two stigmas. Almost all the plants of the order *Gentianaceæ* possess eminently bitter and medicinal qualities, and the centaury is no exception. It is, indeed, so bitter that the old herbalists call it *fel terræ*, or earth-gall, and the Anglo-Saxon name is equivalent in meaning to this. As this bitterness had a healing and tonic effect attributed to it, we sometimes find the centaury called the *Febrifuga;* Culpepper, we see, says of it, "'Tis very wholesome, but not very toothsome."

CROSSWORT.



CROSS-WORT.

Galium cruciatum. Nat. Ord., Rubiaceæ.

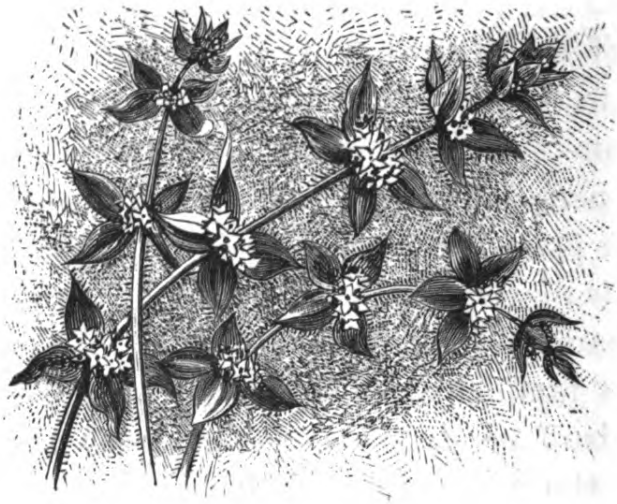
CROSS-WORT, graceful as it is when examined, does not appeal particularly to the eye when seen growing, for all the forms are so minute and delicate that a mass of it amidst the vegetation only tells as a point of yellowish green colour. Yet the plant is one that we always welcome, for it is one more indication that the winter is over and gone, and that the promise of the spring is maturing into the wealth of summer. The cross-wort is very commonly met with on hedge-banks where it can be somewhat in the shade, in copses, woods, and such like spots, and its blossoms may be found in all their delicacy and frailty from April to June. It is rather curious that though the plant is widely distributed, and in many places abundant in England, it is less so in Scotland, while in Ireland it appears to be wholly unknown.

The root-stock of the cross-wort is perennial, and the flowering-stems that ascend each spring from it stand boldly erect to a height of from six inches to over a foot, a good deal depending upon the thickness of the surrounding vegetation amidst which the plant has to fight its way upward to the air and light. The leaves are arranged at somewhat distant intervals on the stems, in rings of four. The leaves are ovate in shape, and, like the stems, thickly covered with hairs. Each set of leaves is immediately over the ring beneath it; in most other plants the following ring just alternates in direction, and fills in the interval, so that the rings if looked down upon show eight leaves, four above, and a second four coming below and filling up the intermediate spaces; but in the cross-wort all the leaves take the same direction, and if one leaf points due north, all the corresponding leaves on all the rings would point due north too. The numerous flowers are found in crowded clusters in the axils of the leaves, ring after ring of leaves on the stem having nestling within it these flower-clusters. Almost all the flowers in each ring are stamen-bearing only, and have a conspicuously four-cleft corolla; the few fertile flowers are often five-cleft. After flowering-time, and when the blossoms have faded away, the little stems on which they were severally borne bend downwards, and so remain until the plant decays.

The cross-wort is one of the numerous indigenous species of bedstraw, but the markedly cruciform arrangement of both foliage and petals has earned it its special distinctive name. It is in some old herbals called the *crusialis*, and in mediæval French it was the *croise*. In Germany it has the same name as its near relative the woodruff, a plant we elsewhere figure and describe, but to distinguish it it has

the very appropriate prefix of golden. A common old English name for the plant is the May-wort, a term of the same nature as Lent-lily, pasque-flower, and fair maids of February, and descriptive of the season when the plant may be found in flower. Other old names for it are the mug-wort, mugget, or golden mugwert. The second and third appear like corruptions of the first, but it would appear that they have good claim to an independent existence. A plant was once called moth-wort, and moghe is the old English word for moth; but the plant that bore this name was the wormwood, and it is difficult to see how the corrupted form of mug-wort can have been transferred to the cross-wort. Mugget and mugwert are corruptions of the French *muguet*, a somewhat depreciatory word, signifying a fop, or dandy. Charming as our plant may be, it assumes no offensive airs on the strength of it, and we, on the whole, consider that it is hardly used by such an association of ideas. The same name is in France applied to the graceful lily of the valley. The generic name *Galium* is derived from the Greek word for milk, some of the plants of the genus having been used formerly by the dairy-maid to curdle milk with. Hence another old name for the genus was cheese-rennet, and in France *caille-lait*. The specific name is from the Latin word for a cross. Parkinson calls the plant the *Cruciata vulgaris*, while with Bauhin it is *Cruciata hirsuta*, the hairy nature of the plant making this latter name a happily-chosen one. We have already seen that its familiar name in Germany coincides with that of the woodruff or *Asperula odorata*, plus the distinctive addition of the adjective golden, and in the writings of Lugdunensis we find this same idea reproduced, as we may say, in fac-simile, for he calls the cross-wort the *Asperula*

aurea, the golden woodruff. The madder has whorled leaves, and is sometimes in the olden herbals called the *Rubia cruciata*, or cross-wort madder, but the true cross-wort is the plant we here figure. To this plant the name may most appropriately be ascribed, for its leaves always follow the cruciform arrangement, while the madder varies from four to six leaves in each whorl or ring. Numerous species of the genus *Galium* are indigenous to Britain, one of the commonest, and at the same time most attractive, being the yellow bedstraw, *G. verum*, a plant so slender and graceful in growth that it was by the olden botanists called the ladies' bedstraw. This species and the cross-wort are the only two bedstraws with yellow flowers; all the other species have white blossoms. A strong family likeness runs through them all, owing to the uniformity of colour in their flowers, and to the fact that in all the species the leaves are arranged in rings at intervals on the stems.



KNOT-GRASS.

Polygonum aviculare. Nat. Ord., Polygonaceæ.

SOME of our readers may well be excused if they imagine that a mistake has been made in describing the plant figured before us, for whatever else it may be, it cannot certainly be considered a grass: it is, in fact, not grass, if the dignity of our subject will allow of such verbal trifling. However, the plant really bears the name we have ascribed to it; and the explanation of the anomaly may be found in the fact that the wisdom of our ancestors manifested itself, amongst other ways, in calling many plants, such as the present and the clover, grasses, if they were eaten by cattle, or could be used as fodder-plants, though they might bear no similitude to the true grasses, and would have no claim in any way really to rank amongst them.

The knot-grass is one of our most common plants, especially on a sandy or gravelly soil; we find it on banks, by the roadside, in corn-fields, and in fact almost everywhere. Cattle

in general are fond of it, and pigs in particular eat it with great avidity, hence one of its old names is swine's grass. In the "Grete Herball" we see it is called swynel-grass. The "Grete Herball" was published in England in the year 1516, and had so great a measure of popularity that it passed through several editions. It was printed in the old black letter, and illustrated with particularly rude wood-cuts, which in some cases bore no resemblance to anything whatever, and in many the same illustration had to do duty for more than one plant. Our readers will readily see the inconvenience of this to those who would refer to the book, if they will imagine that we, for the saving of a little trouble and expense, had not troubled to draw the knot-grass at all, but had quietly described it, and slipped in an old plate of the primrose instead. Though the botanical merits of the work are naturally not great, botanical science being then practically unknown, it is full of interest as being, with one exception, the very inferior herbal of Macer, the first book, and for a long time, the only book, on the subject in the vulgar tongue.

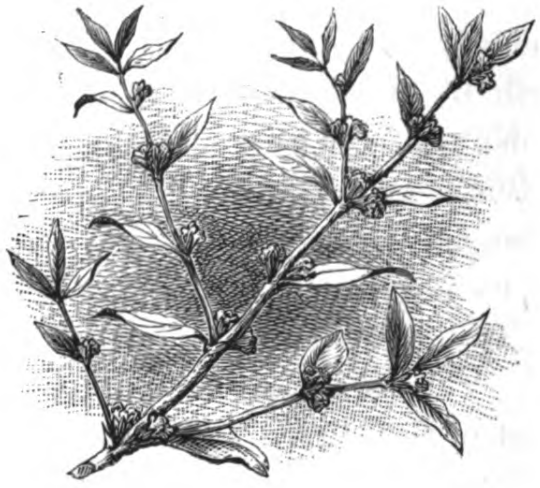
When a plant of knot-grass grows singly in a favourable soil, and clear of other vegetation, it will often cover a circle of a yard or more in diameter, the stems being almost prostrate on the ground, and the leaves broad and large; but when it has to grow thickly together, and share the accommodation with other plants, the stalks become more upright, and all the parts are frequently smaller. Our specimen is a very fairly typical one. In its natural growth it was evidently in an upright position, and we see this at once on looking at the leaves: had it come from a trailing plant all the leaves would have turned one way—the way in which, when the plant was growing, all had turned

upward to the light. It is a very variable species: its stems are sometimes long and delicate-looking, and the leaves sparsely developed, while in others they branch freely, and are densely crowded with foliage. The plant is an annual, and begins flowering in May; it may be found in blossom any time between then and September or October.

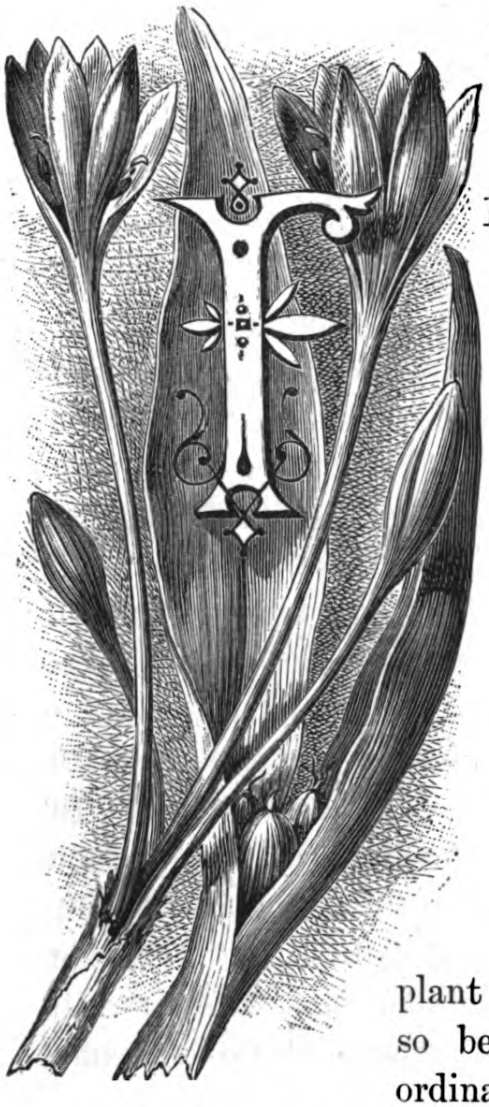
To pass from the general to the particular, we may point out that the root is very fibrous, and takes a strong hold of the earth, so that in hard ground it is with great difficulty eradicated, generally breaking off at the level of the ground when the attempt is made. The stems are numerous, and, as we have already indicated, either trailing or upright in their growth, tough and wiry, and, like all the polygonums, much jointed. When gathered, the stem generally snaps at one of the joints. The leaves vary a good deal in form, for, though they all have the general oval character our figure indicates, in some well-nourished plants they are almost as broad as long, while in the starvelings they become very attenuated. The variation is chiefly in the breadth; they rarely increase much in length beyond what we see in the illustration. They are a bluish green in tint and smooth to the touch. The leaves of this plant, as in all the other species in the genus, are arranged alternately on the stems, and each springs from a membranous, whitish, and sheathing stipule that surrounds the joint, its upper edge being irregularly notched or cut. The flowers are borne in small clusters in the axils of most of the leaves; though small in themselves, they are so numerous that in the aggregate they make a fair show of blossom. The perianth is divided into five segments, varying in colour from a light to a deep pink,

or, more rarely, white. The stamens are eight in number, their yellow anthers being very visible on a closer examination of the flower, and the style is cleft into three parts. The seeds are blackish and three-angled.

The generic name *Polygonum* is compounded of two Greek words signifying many joints, and the name is certainly a very appropriate one, while the specific title *aviculare* is from the Latin *aviculus,* which is, in turn a diminutive of *avis,* a bird. Great numbers of our smaller birds feed on its seeds, and give a full appropriateness to its title. It is in some old herbals and in provincial parlance called bird's-tongue, or sparrow-tongue, but these names arose from the shape of its little pointed leaves; and it is curious that one of its modern Italian names is similar in meaning to the second of the two we have named. Pink-weed is another old name for the plant that evidently arises from the long lines of delicately-tinted flower-clusters, and ninety-knot no less clearly refers to its numerous joints.



MEADOW SAFFRON.



MEADOW SAFFRON.

Colchicum autumnale. Nat. Ord., Melanthaceæ.

FEW of our flowers are more delicately beautiful than the meadow saffron. Its refined colour is too pale for an altogether satisfactory representation on our white paper, but those who have seen it springing up amongst the grass of the pasture or the weeds of the hedgerow will scarcely have failed to have noticed and admired its delicate and fragile grace. This "leafless orphan of the year," much as we may admire it, is a most unwelcome plant to the farmer, and the more so because if found at all it is ordinarily abundant. We have in some places seen quite a purple flush of colour on the meadows from the presence of countless blossoms, but it is a sad blot on the pasturage to the eye of the owner, for it takes the place of much that might be edible. Though animals ordinarily carefully shun it, many instances have

occurred of fatal result to horses and cattle from an imprudent neglect of the warning instinct, and an indulgence in "the baneful juice which poisonous Colchian glebes produce."

The meadow saffron derives its generic name from Colchis, where it was said to be found abundantly, and where its medicinal properties were first discovered; while the specific name clearly indicates the date of its flowering. The familiar name indicates its resemblance to the true saffron, the *Crocus sativus* of botanists. The meadow saffron is a somewhat local plant, being found in profusion in some districts of England and Ireland, while others may be searched in vain; in Scotland it seems to be distinctly a rare plant. The feature that will at once strike even the most unobservant is that it is absolutely leafless at the time when its lilac blossoms render it most conspicuous, so that we may gather a handful of flowers, but any verdant additions we may deem our nosegay to require must come from another source. The flowers rise from the ground to a height of some four or five inches, supported on the slender tube that rises from the subterranean bulb. The lower part of each blossom is enclosed in the membranous sheath that enwraps them all. After the season of flowering, the leaves appear, and then the seed-capsule, but all withers again before the recurring autumn blossoms. The leaves are by no means inconspicuous, for they often attain to a length of nine or ten inches, and have a breadth of over an inch; but as one never finds the leaves and flowers together, this verdant spring foliage is naturally not often associated in people's minds with flowers that will make no sign until all this show of foliage has died away. The ovary is within the tube of the flower, but so low down as to be

subterranean, and those who would desire to see the plant in its entirety will need to gather it with due care. The long, slender, almost thread-like styles that run the whole length of the floral tube are an interesting feature that a hasty gathering of the flowers is very likely to destroy. The general habit of the plant suggests the crocus, but the organs of reproduction differ considerably from those of that genus, and amply warrant its removal from it. The *Crocus nudiflorus,* or naked crocus, so called from its blossoms being thrown up from the ground in autumn, after the leaves have withered, furnished Paley, in his "Natural Theology," with a good illustration of what he terms compensation. As all he says is equally true of the present plant, we may be forgiven a quotation. He writes: "I have pitied this poor plant a thousand times. Its blossom rises out of the ground in the most forlorn condition possible, without a calyx, or even a leaf, to defend it; and that, not in the spring, not to be visited by summer suns, but under all the disadvantages of the declining year. When we come, however, to look more closely into the structure of this plant, we find that instead of its being neglected, Nature has gone out of her course to provide for its security, and to make up to it for all its defects. As this plant blossoms late in the year, and probably would not have time to ripen its seeds before the access of winter, which would destroy them, Providence has contrived its structure such that this important office may be performed at a depth in the earth out of reach of the usual effects of frost. The maturation of the seed, which in other plants is exposed with the rest of the flowers to the open air, is here carried on during the whole winter within the heart, as we may say, of the earth."

The bulb of the meadow saffron has for ages had medicinal repute, and on turning to the modern Pharmacopœia, we find various preparations of the plant duly set forth. The bulb should be gathered during July and August, its period of greatest activity; but Dr. Lindley says that he has seen many hundredweights sent up to town after the flowering-season, the flowers being broken off to conceal the fraud. We see at once that while it would be very difficult to find it in the interval between the dying of the leaves and the springing of the flowers, any one could collect the bulbs when they were guided to them by the blossoms. Colchicum is irritant in its effects, and in large doses is an acrid poison; and while it has a distinct value in allaying paroxysms of pain, the relief is perhaps bought at too high a price, as its general effect on the system is hurtful. Both the bulb and the seeds are used in medical practice. In France it is called Mort au Chien.

FOOL'S PARSLEY.

FOOL'S PARSLEY.

Æthusa Cynapium. Nat. Ord., Umbelliferæ.

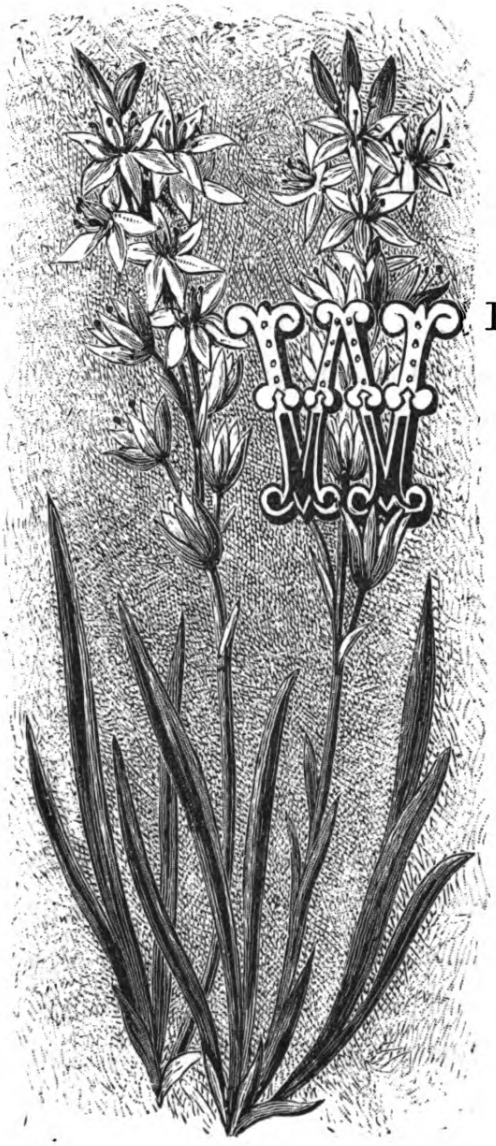
THE light and graceful plant which we have figured in the accompanying illustration may be very commonly met with in fields, on rubbish-heaps, and in the garden, and it may readily and at once be distinguished from all other plants more or less similar to it by the three long, slender, leaf-like strips that spring from beneath each little cluster of flowers. Many of the umbel-bearing order of plants have a strong family likeness that tends to make their identification difficult; but such difficulty need never arise in the present case if the peculiarity we have referred to be borne in mind, as it is a characteristic belonging to this plant alone. One great value of the study of botany is that it enables us rightly to ascertain the natures of plants, enabling us to discriminate between those which are useful

to us as food, and those which experience has taught us are harmful. Two plants may grow in the same soil, possibly in the same bed in the garden, and to the casual glance they are so similar, that the undiscriminating think them alike; yet the one may be a valuable herb for medicine and food, and the other only a deleterious and noxious weed. The plant now before us presents us with an admirable illustration of this, for it is sufficiently like the garden parsley for fatal mistakes to have arisen; and though its name implies that foolish people only would make the mistake, the world will probably, school-boards notwithstanding, have to reckon on a certain percentage of such persons, and it becomes very much the interest of those who might suffer by their folly to enlighten them. Dwellers in the country who have to deal with a certain amount of rustic simplicity, which is nevertheless sufficiently opinionated at times, will do well to plant only the curled-leaved parsley in their gardens, as it is then scarcely possible for mistakes to occur. Some of the old herbalists classed the plant as a deadly species of parsley, but for practical purposes we may point out the following distinctions:—The leaves of the true parsley are of a much more yellowish green; besides, the darker bluish green leaves of the *Æthusa* are much more finely divided, and have a gloss on them that we do not find in the pot-herb. Again if we bruise the leaves of the true parsley we at once get the strong but not disagreeable smell with which most of us must be familiar, while the leaves of the fool's parsley have very little smell at all. When the stranger has thrown up its flower-heads, the bearded clusters form an invariable indication of its nature, but even the comparison we have drawn between the leaves alone should

prove a sufficient safeguard. It flowers during July and August. Haller, in his book on Swiss plants, published at Berne in 1768, quotes many authorities to show that this plant, on being eaten, has been productive of the most violent symptoms, ending in some cases with delirium, stupor, and death. Parkinson calls it the fool's hemlock, but it may readily be distinguished from the hemlock, not only by the pendulous floral leaves to which we have already referred, but as being every way smaller, and not having the strong disagreeable smell that characterises the leaves of the hemlock, though Gerarde, we notice, says "the whole plant is of a naughty smell." Such things are, after all, only relative, however, and our assertion holds good, for though Gerarde's remark is fairly true, the hemlock has a much naughtier smell, and the difference in degree is sufficiently striking to distinguish the one plant from the other. In addition to this, the stems of the hemlock are freely spotted over with dull red markings, a peculiarity that we do not find in the fool's parsley: we have, therefore, two distinct characteristics by which the hemlock and the fool's parsley can be distinguished, not only from each other, but from everything else—the spotted stem of the one, the curious floral leaves of the other. Hill, in his British Herbal, calls our plant the small hemlock, and Gerarde gives it the name of the "wilde hemlocke." This latter term at first view seems a great misnomer, for one plant seems as wild as the other, the true hemlock as the fool's parsley; but incidentally we find an interesting little fact concealed in this name. The reference no doubt is this, that in those old days many indigenous plants were cultivated in the gardens of the herbalists and apothecaries, and the hemlock, dangerous as it is, has

medicinal properties that render it valuable, and therefore brought it into cultivation in such collections of medical plants, while the fool's parsley had no virtues assigned to it, and was consequently valueless and left in its wild state. If we can only once get over a feeling of prejudice against the "nasty poisonous thing," we shall have no difficulty in deciding that there is much delicate grace and beauty in the plant. It is a flower that we are always glad to see springing up in our own garden, though we are free to confess that, having first admired it, we with a certain amount of regret carefully eradicate it. We do not find that it is eaten by any animals; even insects and their larva seem to let it alone. We do not remember to have ever seen any jagged and ragged outline to its foliage, suggesting that some caterpillar has been making a meal. Our own live stock we have never tempted with it, as the risk of seeing one's animals succumbing to its effects is greater than we care for, interesting as it might be to record that a small armful killed a cow in an hour and a quarter.

BOG ASPHODEL.



BOG ASPHODEL.

Narthecium ossifragum. Nat. Ord., Juncaceæ.

WE can well remember the satisfaction with which, after a long tramp on the Yorkshire moorlands, we first made acquaintance with the bog asphodel. All who have any practical knowledge of the wild moors of the north and the mountains of Wales or Westmoreland will be familiar with the subject of our illustration, as it is in the swampy and marshy bits of ground in these localities that one so often finds that the asphodel flourishes. Those who would gather it must not attach over much importance to such a detail as keeping one's boots dry, or they will have to be content with beholding it from afar, and the beauty of the plant richly deserves a closer inspection. The bone-breaking repute that it carries in its specific name bears record to an old belief that the bones of sheep feeding upon it become brittle and snap; but the plant

carries no such terrible power. Sheep, probably, would not even touch it if they had the opportunity, and a wise shepherd will not give them that opportunity; not, indeed, because he need dread the innoxious asphodel, but because he dreads the place wherein it grows. It is not the plant, but the wet, boggy ground in which it flourishes that proves a bane to the flock.

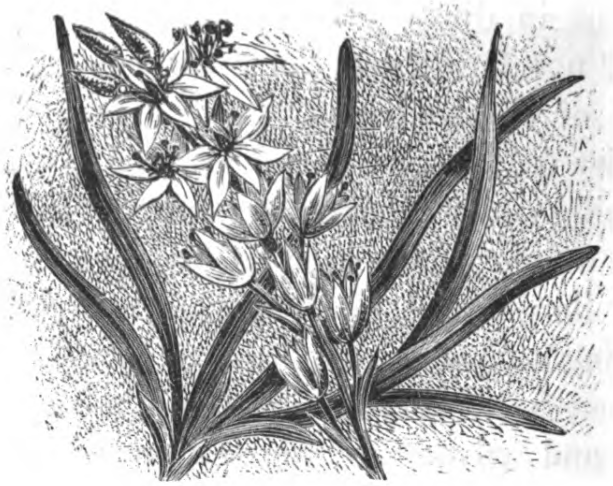
The star-like perianth of the flower is composed of six spreading and acutely-pointed parts of a brilliant yellow, and within these the anthers form a conspicuous feature. Each stamen, too, will be found to have the greater part of its filament—the slender part bearing the anther, or head—clothed with a thick, wool-like substance; and as this is white in colour, it readily attracts our notice on an inspection of the flower. The flowers form a stiff terminal raceme, rising well above the leaves, and the leaves all stand somewhat rigidly around the flower-stem, rising from near its base, and sheathing it. The foliage is very similar in form to that of the daffodil, but the leaves are much smaller; the whole plant is only a foot or so in height, and the leaves are about half this. The flower scape bears numerous scales. The plant is a perennial, and the roots creep a good deal, so that when the plant is once established it soon takes possession of the ground, and covers it with its golden spires.

The generic name, Narthecium, is derived from the Greek word *narthex*, a rod, probably from the straight upward growth of the flower-stem. The earliest botanists gave the name to a quite different species—the fennel, a plant equally characterised by a sturdy upward growth. Linnæus classed it as an Anthericum; and Dr. Hooker points out the curious fact that by an entirely undesigned

coincidence the name of the genus in which it is now placed contains exactly the same letters: the words form an anagram. The word asphodel was applied by ancient Greek writers to a plant that cannot now be satisfactorily identified, but the general balance of evidence would appear to be in favour of the narcissus, and the name of a close relative to this—the daffodil—is itself a corruption of the word asphodel. Why the present plant, which only bears a very distant resemblance to either the daffodil or the narcissus, should have got the name of asphodel, we are unable to say. Parkinson describes two species—a greater and a lesser marsh "asphodill;" but there is no such distinction really, and we can only suppose that two plants sent to him were so unequal in development that he thought they must be really different species, and his illustrations, rude in character as they are, bear out this idea. He says of them:—"Both these sorts have beene found in our owne land, as well as beyond sea, in the marrish and wet gronds, the former not only in Lancashire, as Gerarde hath recorded, but in divers other places, and the last likewise by Egham, not farre from the river side there, and in the west parts of the land also."

The older writers always endeavoured to find a "vertue" for everything; and Gerarde records that in some parts of the country young women used the bog asphodel to dye their hair of a yellowish tint, and called it maiden-hair. He also calls it King's Speare, Asphodelus luteus, and Hastula regia. Though he evidently prefers the name Lancashire Asphodel, and gives an illustration which he entitles Asphodelus Lancastria verus, he is not so utterly beyond conviction that the plant may be found elsewhere, as Parkinson seems to think. He shall, however, conduct his

own defence in his own words on the subject, which are as follows :—"The Lancashire asphodill groweth in moist and marish places neere unto the towne of Lancaster, in the marish grounds there, as also neare unto Maudsley and Martom, two villages not far from thence, where it was found by a worshipfull and learned gentleman, a diligent searcher of simples, and feruent louer of plants, who brought the plants thereof vnto me for the increase of my garden. I received some plants thereof likewise from Master Thomas Edwards, apothecarie in Excester, learned and skilfull in his profession, as also in the knowledge of plants. He found this asphodill at the foot of a hill in the west part of England, called Bagshot Hill, neere vnto a village of the same name." As a plant of the high moors, it is naturally more abundant in the north and west of England than in the south and east, as the former districts have thousands of acres of undrained, uncultivated upland, that supply it with all that is congenial to its well-being.



WOODRUFF.

Asperula odorata. Nat. Ord., Rubiaceæ.

FEW floral displays are more attractive in the early summer than a large mass of the woodruff in flower. Its rings of leaves cover the ground with a dense mass of living glowing green, and from this rise in plentiful abundance the flower-stalks bearing above this groundwork of tender verdure the thousands of pure white blossoms. It is one of the misfortunes of illustrations that those flowers which are the most pure and delicate in tint lose most by their representation in colour, and those who would see the ox-eye daisy to perfection, realise the delicacy of the lilac of the meadow saffron, or the intense white of the woodruff, must turn to the great book of Nature, and see them amidst their natural surroundings. The beauty of many of our flowers, too, in nature is increased by their aggregation; we gaze not on one, but on

hundreds of blossoms. A primrose anywhere is a thing of beauty; but a hedge-bank in spring one mass of its blossoms is still more beautiful. The hyacinth has a delicate grace and richness of colour that makes even a single specimen a delight; but he who would see wild hyacinths at their best must wander at spring-time into the woods, and find himself in a purple sea of flowers stretching beneath the trees as far as eye can reach.

The woodruff is plentiful in most woods throughout the country, and is conspicuous at any time owing to the form and density of its foliage; but those who would seek it in flower must wend their way to its woodland home in May or June. A large bunch of it should be brought home; it will last for some time in water; but when it begins to show signs of fading, instead of throwing it aside, it should be tied into a bundle and dried, when it will for months give forth a delicious fragrance. Placed between the leaves of a book, its fragrance remains intact for many years, and in some parts of the country it is put away in drawers amongst the clothes, partly because, like lavender, its odour is appreciated, and partly from an idea that it keeps away the moths. It is also in some rural districts made into a tea, but whether it is drunk on its own merits or as a medicine we are unable to say.

Gerarde, we see, suggests that the woodruff should be made up into garlands and "hanged up in houses in the heat of summer, as it doth very well attemper the aire and coole and make fresh the place, to the delight and comfort of such as are therein;" and he farther suggests that it should be put into wine "to make a man merry, and to be good for the heart and

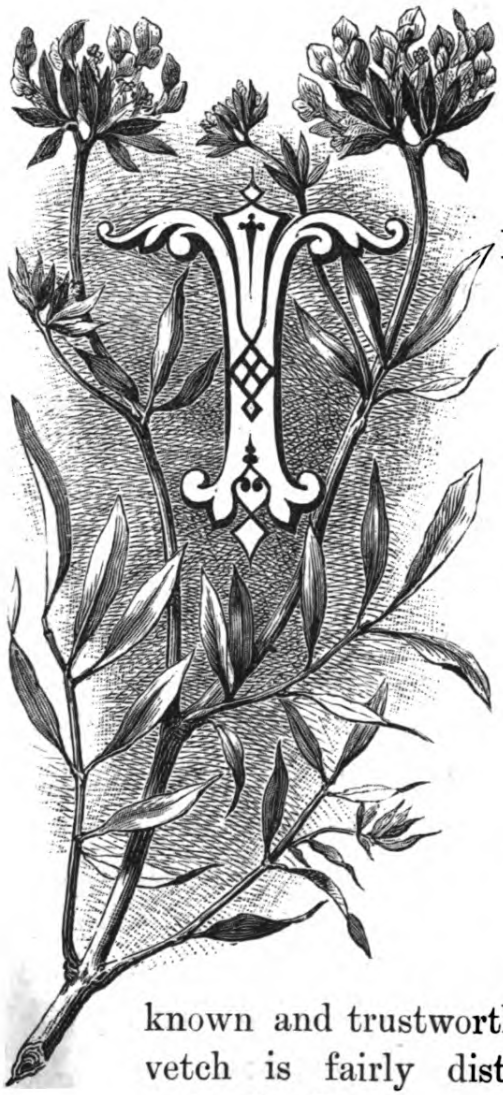
liver." He also commends it as a "vulnerarie herbe," to be applied to cuts and wounds. Other old writers give it all the credit that Gerarde does, and much more. One, we see, commends it as "good against the plague, both to defend the heart and vitall spirits from infection, and to expell the noysome vapours that are received," and another advises its use "in epelepsies and palsies." Every old writer could furnish illustrations, more or less numerous, of its value, and we can therefore only wonder how our ancestors ever came to be put beneath the lichened stones that now form their memorial.

The root of the woodruff is perennial, and puts forth many creeping subterranean stems, which in turn send down into the earth numerous fibres at short intervals along their course, and freely throw up the flowering-stems. Dodonæus says: "In this countrie they plant it in all gardens, and it loveth darke shadowie places, and deliteth to be neare old moyst walles. Woodrowe floureth in May, and then is the smell most delectable." We have ourselves in the shade of the north side of our house a large bed of it that never needs the least attention, and is always a beautiful object. The stems rise to a height of some six or eight inches, are four-cornered in section, and smooth to the touch. The leaves grow in rings round the stem, generally eight in number in each whorl, and above these the stem branches slightly and bears its terminal masses of white blossom. The flowers are cross-shaped, and shatter very readily, and these are succeeded by little globular burr-like seed-bearers, each containing a single large seed.

Amongst old names for it we find *cordialis* and *stellaria* —the first, of course, from its supposed efficacy in heart-

disease, and the second from its star-like foliage and flowers; but ordinarily its names are more or less like that by which we have described it. We find wood-rowell, wood-roofe, wood-reeve, and several others of like character.

In Anglo-Saxon it is *woodderowffe*. Wood-rowell refers to the rings of leaves that suggest in their form and arrangement the rowel of a spur, while our ordinary word woodruff would appear to find a resemblance in the foliage to the mediæval ruff, of which the portraits of Queen Elizabeth always give so noteworthy an illustration. These derivations, interesting as they are, are probably after-thoughts; for the plant had its Anglo-Saxon name bestowed upon it long before ruffs were worn or the word rowel, from the French *rouelle*, a little wheel, was in use. Dr. Bosworth gives *row* as the Anglo-Saxon for sweet, and there can be but little doubt that the literal meaning of the word is the woodsweet.



KIDNEY-VETCH.

Anthyllis vulneraria. Nat. Ord., Leguminosæ.

THE genus to which the kidney-vetch belongs is a very small one, and the subject of our illustration is the only British species. What the generic distinctions between this and the bird's-foot trefoil, *Lotus corniculatus*, or other well known pea-flowers, may be, would take us into matters too technical for the present pages to properly elucidate, but all may be found duly set forth in the pages of Hooker and Bentham, and other well-known and trustworthy authorities. The kidney-vetch is fairly distributed throughout Britain, and should be sought for on dry pasturage, railway embankments, and such-like high-lying ground. The plant is more especially common in hilly and mountainous districts, and may there be looked for amongst the rocks that stand exposed to sun and air. It is a perennial, and begins flowering early in June, continuing

in blossom throughout the summer. The stem, unlike that of some of the *Leguminosæ*, such as the meadow vetchling or the tufted vetch, needs no external support, but stands boldly up in sturdy self-reliance to a height of about a foot. Both the stem and the leaves are more or less evidently covered with soft and silky hairs. As these, instead of standing out from the foliage and stems, are closely appressed to the stem, they are not at first sight very obvious, but they are perceptible by their smooth silkiness, and by the grey and bloom-like appearance that strikes the eye. The leaves vary in form according to their position on the plant. All are composed of a terminal leaflet and several pairs of laterals, but in the upper leaves the pairs of leaflets that fringe the leaf-stem are more numerous, and all, both terminals and laterals, are very similar in form and size. In the lower leaves the terminal leaflet is broader, larger, and every way more important-looking than the scanty leaflets associated with it. The lowest of all have only one or two pairs of lateral leaflets, while the highest may have any number from four to eight; and as we examine the plant we see the gradual, but sure, progression from one form to the other. The leaflets are what is termed botanically entire, that is to say, without any marginal lobings or serrations of any kind, and all, as we have already seen, are clothed with soft downy hair. The natural grey tint of the leaves is often exaggerated in effect by the roadside dust that freely covers them. The flower-clusters are ordinarily in pairs on the summit of the stems; this peculiarity may be very well seen in each of the plants we have figured, and each cluster has beneath it a large leaf-like bract, cut into long and numerous segments. The higher of our two figures shows this most clearly, but

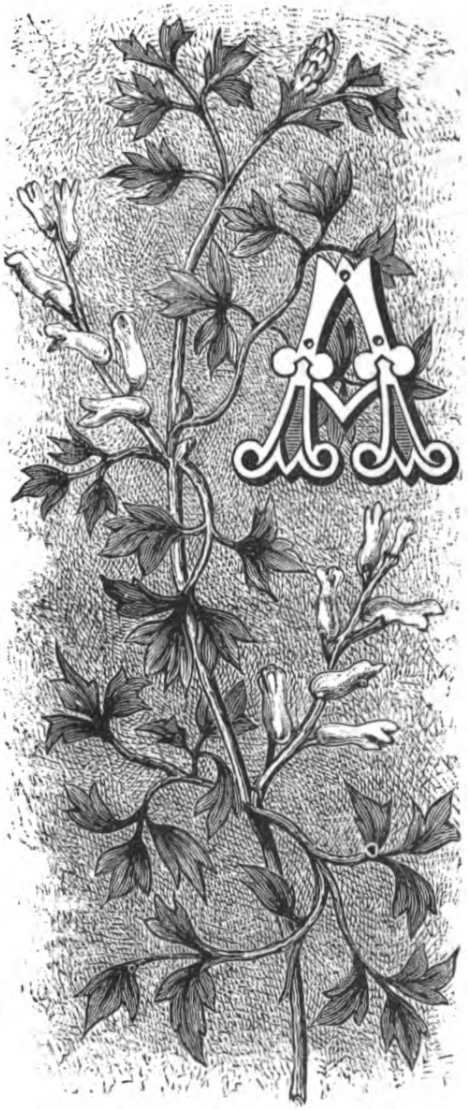
we can readily see that were the lower piece turned from us instead of towards us, a similar form would be presented. This form of bract is, in botanical parlance, said to be palmate or digitate, two words of very similar significance. *Palma* is the Latin word for the palm of the hand, while *digitus* is a finger, and the finger-like radiation of the segments from the base of the bract is sufficiently evident. An old country name, suggested, doubtless, by this feature of the plant, is "ladies' fingers."

The flowers are crowded closely together, and are numerous in each bunch. The flower is of the characteristic pea-blossom type, and though ordinarily golden-yellow in tint, it varies at times from a very pale lemon-yellow or cream-colour to a dark red. The rich yellow tint is far the most common and typical, and it has been noticed that when the plant varies from this it is ordinarily in specimens growing near the sea. When they wither the flowers turn a rich reddish-brown; this may be seen in our figure, where several of the blossoms in one of the clusters have faded, and assumed this tint. The calyx is very much inflated about midway, and narrows rapidly above and below, so that it has a cushion-like appearance—an effect greatly increased by the mass of soft grey hairs with which it is closely covered. This soft grey padding is a very curious and striking feature, and one that will go a long way in aiding our readers to identify a doubtful specimen as being truly the flower they are in search of. These delicate downy calyces have been the cause of the bestowal of another common name, the "lamb-toe." On close examination, the five teeth at the mouth of the calyx are readily found. The ten stamens are all united into one sheath, though in most of the pea-flower order we find the following curious

arrangement: nine of the ten united into one brotherhood, and the tenth isolated. The pod is small, only contains some two or three seeds, and is enclosed within the calyx; a little gentle vivisection with a sharp penknife will readily bring it to light when the flowering-time is over, and when we may fairly judge that the plant ought somehow to be in fruit, if we could only find it.

The commonest English name, the kidney-vetch, bears reference to an old belief in the healing-powers of the plant, and in the specific name, *Vulneraria*, from the Latin *vulnus*, a wound, we see an allusion to its supposed vulnerary qualities; probably its soft and downy flower-heads suggested the idea that they might be efficacious in stopping bleeding, and another old name, "staunch," seems to indicate its utility in this direction, but we greatly doubt whether any one ever really used it for such a purpose. The generic name of the kidney-vetch, *Anthyllis*, is Greek in origin, and refers to the down-covered calyces.

FUMITORY.



FUMITORY.

Fumaria officinalis. Nat. Ord., Fumariaceæ.

AN old writer has said: "There be divers herbes comprehended under the title of Fumitorie: some wilde, and others of the garden." The common fumitory is an annual; it may be found almost everywhere on dry land, on high-lying fields, and by the roadside, though it seems to prefer fields under cultivation; it often appears in the garden, and, in such situations, it may be found in flower during the whole of the summer and the greater part of the autumn, if it be sufficiently fortunate to escape the weed-cleansing hoe. Small and insignificant as the plant appears, it has won a place for itself in our literature, for we find it referred to by Clare, Shakespeare, and other less well-known writers. In the middle ages the fumitory was boiled in milk and used as a cosmetic by

the belle of the village and her rivals. The fumitory may be considered as a sign of bad husbandry, and it is in this sense that the plant is introduced by Shakespeare. To enforce the idea of the sorrowful plight of King Lear, he is represented by our great poet as

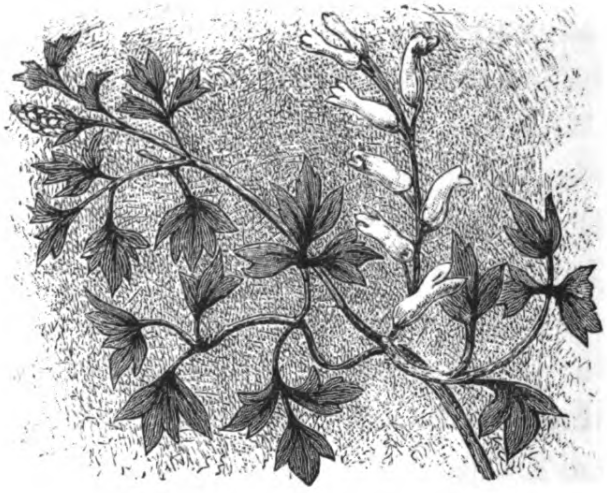
> "Crowned with rank fumitor and furrow weeds,
> With harlocks, hemlock, nettles, cuckoo-flowers,
> Darnel, and all the idle weeds that grow
> In our sustaining corn."

The fumitory, nuisance as it may be in the garden or the fields, is a particularly easy plant to pull up, as its long, slender root may be drawn out on the most gentle handling. We confess that we have great doubts whether we ourselves are quite the sort of person who ought to have a garden at all, for our gardener's assiduity in weeding out all these wild growths only finds faint echo in our own mind; and, on the whole, we prefer the fumitory to many of the substitutes for which it is ruthlessly eradicated. We were just in time to rescue the piece we have figured from the pitiless hoe; and when we carefully carried it indoors for drawing purposes, the gardener's look was more eloquent than his language probably might have been. He thought we were siding with the enemy, evidently.

The stems of the fumitory vary in height from about six inches to eighteen, enlarged at the joints, and spreading a good deal. In some plants the stems stand boldly erect in their own strength, but in others the plant assumes a weak and trailing appearance. The stems are in any case very delicate and fragile-looking. The leaves are arranged alternately on the stem; they are very much subdivided, the leaflets being ordinarily cut into three conspicuous lobes. This feature may be very well seen in our figure.

The leaves are what is termed twice-pinnate. In a pinnate leaf several lateral leaflets are given off on either side of the central leaf-stem, and when these lateral members are in like manner cut up into subordinate leaflets, the form is bi-pinnate, or doubly feathered. The leaflets vary greatly in appearance; in some plants they are long and narrow, and in others flat and broad, and all the foliage is of a pale bluish-green tint. The flowers are arranged in racemes, the flower-bearing stems being either terminal or opposite the leaves. Before development the buds are closely packed together, but as the flowers open the stem elongates, causing a considerable interval between the blossoms. This early crowding and subsequent elongation may be noticed in our illustration. The sepals, two in number, are very small. The four petals of which the quaint-looking corolla is composed are arranged in two pairs, though they are all more or less united; and the curious prolongation or spur of the flower must be duly noted. The stamens, six in number, are arranged in two bundles of three each. The form of the seed-vessel may be seen in our figure; when we open the small globular fruits, we find that each contains a single seed. Some of the old herbalists compare the flowers to little birds, and one of the German names for the plant is the *Taubenkropp*, tauben being the Teuton for doves; while a provincial English name for the fumitory is *wax-dolls*. In Wales it is the *Mwg y ddaear cyffredin*, and in Ireland the *Cuman Searraigh*. There is a curious uniformity in the meaning of many of its names, and yet when we endeavour to analyse the significance that runs through them all we find a wide divergence. The generic name, Fumaria, is derived from the Latin word *fumus*,

smoke; in many parts of the country the plant is called colloquially earth-smoke; and in France it is the *fume-de-terre*, and in Germany the *Erdranch*, names of like significance. The English word fumitory follows the same idea; it may more readily be detected in its older guise, the fumiterrie. When, however, we would seek the common idea involved in the various names we have given, our difficulties commence. In the "Ortus Sanitatis," published in the year 1485, we find a belief that the plant was produced from the vapour rising from the earth, that it was not propagated by seeds, as other plants, but was a veritable child of the mist. Pliny, who recommends the use of the plant as an eye-wash, tells us that on its first application to the eyes it causes them to smart and water as smoke does. Another writer tells us that the plant is called the fumitory from its smoke-like stem; while others, again, point to the tender spreading mass of grey-green leaves, and ask us to see in them a similitude to a whiff of passing vapour on the earth—a fumiterrie, or earth-born cloud. All ends, alas! as it began, in smoke and misty ambiguity.



BROOM RAPE.

BROOM-RAPE.

Orobanche major. Nat. Ord., Orobanchaceæ.

THE extraordinary-looking plant here presented to us is by no means uncommon, though the singularity of the colouring would lead one at first sight to suppose that it is merely some dead and withering plant amongst the surrounding verdure, and thus it would naturally get overlooked. A closer examination will, however, amply repay us, as the plant is full of quaint interest, and what at first glance seemed a mere dingy brown mass will reveal itself as a long line or spike of grotesquely-shaped flowers. Another curious feature is that the plant does not grow directly from the earth, but is parasitic on the roots of other plants. The plant on which it more especially grows is the common broom, but it may also be found on the furze and other leguminous or pea-flower plants. The stem of the broom-rape is from a foot to a foot and a half

high, very upright, unbranched, hollow in the interior, round in general section, but a good deal channeled on the exterior, and of a dull purplish-brown or rusty-red tint. It is freely clothed with dry and withered-looking scales, a feature that may be clearly seen in our illustration, and at its base it expands into a bulbous-looking mass, closely clothed and covered with numerous overlapping scales. As the stem ascends these gradually become less crowded together. The plant has no true leaves. The flowers, like the stems, vary in tint from a dull purplish brown to one of a more reddish tinge, a tint that all our readers who own a colour-box will readily recognise when we call it a burnt sienna; there is often a purplish bloom too that adds to the beauty, and altogether the dry and withered-looking thing will on closer view prove wonderfully varied in quiet gradations of yellow, red, brown, and purple, and by no means unworthy of the pencil of many who would probably cast it aside. On picking off one of the members we find it in all its parts a true flower, duly furnished, like the golden broom which waves above it, with calyx, corolla, stamens, and all else that is essential to a typical blossom. The corolla is irregular in form, and with a widely-opened mouth. The tube of the corolla curves considerably, and gives a quaintly grotesque look to the plant, that may be more readily seen in our figure than appreciated by any verbal description. The mouth of the flower is deeply cut into two prominent lips; the upper of these is concave and slightly cut into three segments, while the lower and larger lip is similarly cut, but the cuts are much deeper. Of the three lobes or segments thus formed, the central one is considerably the largest. All the segments are very much waved and

crinkled, so that the forms are somewhat difficult to trace, and the flower is consequently by no means an easy one to draw.

The literal translation of the Greek word *Orobanche* is "strangle-tare." The term was originally used by Theophrastus, and we find it again applied by Pliny and Dioscorides to another plant. What the plant of the first of these writers could be we have now no certain means of knowing, though the words he employs to describe it clearly indicate a climbing plant; but the *Orobanche* of the other two old writers agrees entirely in its description with the plant we have figured, and leaves little or no doubt on our minds that the name has been borne by the same plant for more than a thousand years. From its habit of living on other plants, and weakening them for its own support, it was called in some parts of Italy, we are told by Matthiolus, the wolf-plant. Its pernicious effects are confirmed by a later Italian writer, Micheli, who mentions its being proscribed in Tuscany by public edict. The English name is derived from the Latin *rapa*, a turnip. The tuberous mass of scales at the base of the stems is supposed to resemble a turnip, but the resemblance is of the slightest possible character. It is a fairly globular mass at the base of the stem, and that is really all that can be said; in colour, size, and almost every other respect, it is wholly unlike it. The mediæval title, *Rapum genistæ*, is evidently only a translation into Latin of the common English name. Curtis says that the strong astringency of the plant makes it a useful vulnerary, but the plant has a slightly uncanny look that would probably make many people rather chary of meddling with it. Both Parkinson and Gerarde refer incidentally to it when the broom comes

under their notice, and give a fairly good drawing of the broom plant and this parasite adherent to its roots. Parkinson speaks of it as follows: "From the rootes hereof in many places (but more often where no broome growethe, namely, by fields and hedgesides, and upon heathes) growethe another plant whose stalke is of the bignesse of a finger or thumbe, having a show of leaves on them and many flowers at the toppe, somewhat like unto the flowers of orchis, but larger, and of a deadish yellow colour." He commends the stems as a substitute for asparagus, but says they are far more bitter, and it appears, according to him, to be "a singular good helpe" for divers complaints. His reference to the broom-rape being more often than not found away from the broom, does not invalidate its name, but only indicates that it is parasitic on several species of leguminous plants.