

the base of the lowest pedicel: sepals ovate, acutish or obtuse, 1-1½ lines long: petals 3-4 lines long, pale rose color with darker veins: roots globose. Eastern Washington and Oregon to the Rocky Mountains, Nevada and California, in mountainous districts.

**C. umbellata** Watson Bot. King 43, t. 6. Scapose stems an inch or two high: radical leaves orbicular to oblong or ovate on long slender petioles (often wanting on flowering specimens): involucre leaves orbicular to ovate or rhomboidal, on slender petioles: flowers 2-5 in a subsessile umbel, subtended by a broad scarious bract: petals 3-4 lines long, a little longer than the rounded, obtuse, somewhat scarious sepals: root of various shape, usually oblong or fusiform, ½-2 inches long. In gravelly ground, Stein's Mountain, southeastern Oregon to Nevada.

\* \* Stems and leaves from the crown of a fleshy root.

**C. Megarrhiza** Parry Watson Bib. Ind. 118. Leaves numerous, cuneate with rounded apex, attenuate below to a margined petiole with scarious dilated base 1-6 inches long, 2-18 lines wide; scapose stems not exceeding the leaves: involucre leaves lanceolate or linear sessile: raceme secund, subsessile, with comparatively large acutish scarious bract at base; sepals oblong 2-3 lines long, petals obovate submarginate, a third longer than the sepals. High alpine, growing in crevices of rocks, its large purple tap-root penetrating to a great depth. Blue Mountains of eastern Oregon to the Rocky Mountains.

7 MONTIA Micheli Nova Plantarum Gen. 17 t. 13.

Low glabrous and succulent herbs with delicate pale or white flowers in loose axillary or terminal simple or compound racemes. Sepals 2, rarely 3, persistent. Petals usually 5, rarely 3 or wanting; more or less united at base, usually unequal, 3 of them a little smaller than the other 2. Stamens 3-5, inserted on the base of the corolla, opposite its lobes. Ovary 3-ovuled: capsule 3-valved, 3-seeded.

\* Leafy-stemmed annuals: petals unequal.

+ At least the lower leaves opposite.

**M. minor** Gmelin Fl. Bad. i, 301, (?) Stems weak and filiform, forming dense mats 2-10 inches in diameter rooting at the lower nodes: leaves spatulate or obovate to narrowly oblanceolate, 3-9 lines long: flowers a line long or less: petals conspicuous a little longer than the calyx: seeds dull black, tuberculate. In wet places and ditches, Washington to northern California.

+ Leaves all alternate.

++ Stamens 2 or 3: opposite the 3 smaller petals.

**M. Howellii** Watson Proc. Am. Acad. xviii, 191. Stems slender, diffusely branched ½-3 inches long, procumbent and rooting at the nodes: leaves narrowly spatulate 2-4 lines long with a dilated scarious clasping base, rarely opposite, usually opposite to a triangular scarious clasping bract which subtends a few-flowered raceme: pedicels shorter than the leaves, reflexed in fruit: flowers very small: sepals less than a line long: petals 2, rarely 3-5 or wanting; the 2 larger a little exserted: seeds black smooth and shining. Willamette valley: flowers in very early spring.

**M. dichotoma** Howell l. c. 36. *Claytonia dichotoma* Nutt. T. & G. Fl. 202. Erect, 1-3 inches high, branching from the base and compact leaves all linear 6-12 lines long: flowers in dense terminal racemes; sepals broadly elliptical, about a line long, usually colored: petals but little longer: distinctly united at base: seeds thick-lenticular minutely tuber-

culate, small, dull black. In wet places, Columbia river valley from The Dalles westward.

**M. linearis** Greene Fl. Francis. 181. *Claytonia linearis* Dougl. Stems erect or spreading 2-6 inches long, branching from the base: leaves linear, sessile by a clasping base, 1-3 inches long, flowers in lax terminal often secund racemes: stamens 3, (rarely 2 or 5): sepals broadly elliptical, 2 lines long, often partly scarious and colored; petals a little longer: seeds black and lustrous, a line broad, the largest in the genus, flat and sharply margined. In moist or wet places, Vancouver Island to northern California.

++ Stamens 5, seeds closely striate and transversely lineolate.

**M. diffusa** Greene l. c. Annual, stems procumbent diffusely branched: 2 inches to a span long: leaves broadly ovate or deltoid, abruptly attenuate into a petiole,  $\frac{1}{2}$ -1 inch broad: racemes very numerous, terminal and lateral, subcorymbose; pedicels slender, at length recurved, the lowest one and often several of the upper ones bracteate: petals emarginate, 2 lines long, a little longer than the calyx. In forests and shady or rocky places near the mouth of the Willamette river to northern California.

\*\* Leafy-stemmed perennials, stoloniferous or bulbiferous; racemes terminal and axillary, not involucrate-bracted: petals 5, scarcely unequal: stamens 5.

+ Stems filiform: leaves alternate; racemes terminal.

**M. parvifolia** Greene l. c. Stems filiform 2-10 inches long: leaves fleshy, lower clustered, oblanceolate or spatulate, 5-18 lines long; cauline much smaller, usually with leafy bulblets in their axiles: racemes terminal few-flowered: some or all of the pedicels subtended by scarious bracts: sepals broadly ovate obtuse, a line long: petals oblanceolate, emarginate. About springs and wet places, California to Alaska.

+ + Leaves opposite: racemes axillary.

**M. Chamissonis** Greene l. c. 180. Stems weak and slender, erect or decumbent, a foot or less high, stoloniferous and rooting at the joints: leaves oblanceolate or spatulate  $\frac{1}{2}$ -1 $\frac{1}{2}$  inches long; often with bulblets in their axiles: racemes few-flowered with a scarious bract at base; flowers on slender pedicels: sepals orbicular  $1\frac{1}{2}$  lines wide: petals white, 3 or 4 lines long. In wet places, Alaska to California, east to the Rocky Mountains.

**M. Hallii** Greene l. c. A span high, destitute of stolons or bulblets: leaves only 2 or 3 pairs: pedicels in fruit ascending: calyx barely a line long: seeds muriculate. Wet ground, Willamette valley.

\*\*\* Leaves all radical: stems scapiform: racemes involucrate, petals and stamens 5 each.

+ Involucral bracts more or less united into a disk, other and smaller bracts above them: annuals, apparently confluent in a series.

**M. perfoliata** Howell l. c. 38. *Claytonia perfoliata* Donn Willd. Sp. ii, 1186. Scapose stems 6-12 inches high: leaves long petioled, ovate to deltoid usually acute  $\frac{1}{2}$ -3 inches broad: light green: involucral bracts completely joined together forming a perfoliate shallow-funnelform disk: flowers in short or long peduncled interrupted elongated racemes: sepals ovate 1-1 $\frac{1}{2}$  lines long: petals a half longer: seeds rather small, black and lustrous, lenticular. Common in shady moist places, Vancouver Island to California and the Rocky Mountains, also Mexico and Chile.

**M. parviflora** Howell l. c. *Claytonia parviflora* Dougl. Leaves light green, spatulate to filiform, including the petiole 2-6 inches long: scapose stems 2-8 inches long, involucral bracts joined together on one or both sides into a perfoliate or clasping or shallow disk: flowers in sessile or short-peduncled racemes; sepals ovate, a line long: petals but little longer:

seeds small lenticular, black and shining. Common in moist shady places, Washington to California.

**M. rubra** Howell l. c. Whole plant usually livid red, spreading; leaves deltoid or rhomboid, abruptly narrowed to a margined petiole 1-3 inches long; scapes 1-3 inches long, more or less depressed; involucre bracts completely united (or slightly open on one side) into an orbicular perfoliate disk: flowers in short sessile racemes; sepals orbicular, less than a line long, about half the length of the petals. In dry open woods Washington to northern California.

**M. spathulata** Howell l. c. *Claytonia spathulata* Dougl. Succulent and glaucous or pale, scapose stems 1-8 inches long, spreading or erect: leaves slender, terete or some of the outer ones becoming spatulate and flattish; involucre bracts either wholly united and the disk shorter on one side, or joined together on one side only and that throughout or only in part: racemes short, nearly or quite sessile; the slender and mostly alternate pedicels 3-4 lines long; sepals ovate, a line or more long, about half the length of the white or rose-color petals: seeds minutely tuberculate. In wet saline soil, southern Oregon and California.

**M. humifusa**. Depressed and spreading in a circular manner, forming a rosette 1-4 inches in diameter, pale green or yellowish: leaves rather 1-w, thin, orbicular or rhombic to oblong or broadly spatulate the blade 2-6 lines long, abruptly or gradually contracted below to a slender petiole,  $\frac{1}{2}$ -2 inches long: scapose stems numerous,  $\frac{1}{2}$ -2 inches long: involucre bracts large, completely united on one edge and little or not at all on the other, forming a broad somewhat angular reniform sessile leaf: flowers glomerate in the axils of the involucre and not surpassing it; pedicels about a line long: calyx orbicular to broadly obovate, a line long, petals not seen: seeds small, very black and lustrous, turgid, with a distinct white appendage at the hilum. In moist places, valley of the Walla Walla river near Milton, May 18, 1896, *Howell*. This may be *Claytonia parviflora* var. *depressa* Gray Proc. Am. Acad. xxii, 181.

**M. tenuifolia** Howell l. c. *Claytonia tenuifolia* T. & G. Fl. i, 201. Stems numerous, filiform: leaves narrowly linear or filiform  $\frac{1}{2}$ -2 inches long, insensibly decumbent into long petioles: involucre bracts linear, somewhat dilated at base and then slightly connate on one side, much longer than the sessile 1-bracteate subumbellate raceme: petals oblong longer than the calyx, rose-color. In damp places about cliffs, etc., southern Oregon and California.

**M. arenicola**. *Claytonia arenicola* Henderson Bull. Torr. Club xxii 49. "Annual with delicate fibrous roots, 2-6 inches high: radical leaves linear-spatulate, the broadest not over  $2\frac{1}{2}$  lines wide (generally about a line wide) 1-2 inches long, tapering from near the obtuse apex into a delicate petiole: cauline leaves a single pair, similar to the radical but shorter, opposite and distinct: racemes numerous and prolifically flowered, the flowers on pedicels  $\frac{1}{2}$ - $\frac{3}{4}$  inch long; petals pink-white, 3 lines long, emarginate; seeds  $\frac{1}{2}$  line long shining and resembling those of *C. Siberica*, but only half as large. Dry sandy banks along streams as well as dry pine woods, Idaho and eastern Washington."

+ + Involucre bracts distinct; petals subequal.

+ Perennial with creeping rootstocks: racemes without bractlets.

**M. asarifolia** Howell l. c. *Claytonia asarifolia* Bong. Veg. Sitch. 157 (?) *C. cordifolia* Watson Proc. Am. Acad. xvii, 365. Scapose stems 4-11 inches high from a creeping caudex: radical leaves subcordate or somewhat reniform to rhombic-ovate, on long slender pedicels: involucre bracts ovate acute,  $\frac{1}{2}$ -1 $\frac{1}{2}$  inches long: flowers few upon slender pedicels in a long pedunculate naked (or with a single scarios bract) raceme: petals 3-4 lines long, thrice longer than the rounded sepals. Alpine and alpestrin from Alaska to California, east to the northern Rocky Mountains. ~