

beneath: flowers solitary or several together in a small terminal cluster: sepals and petals lanceolate, acuminate, 6-12 lines long, greenish-brown, with brown veins, the lateral sepals wholly united or very nearly so; lip depressed-ovate, greenish-yellow with brown or purplish margins, 4-6 lines long: sterile anther oblong, obtuse, equaling the stigma. On dry open hillsides California to Washington.

ORDER XCIV IRIDACEÆ Lindl. Nat. Syst. ed. 2, 328.

Perennial herbs; with equitant sheathing narrow leaves and few showy perfect flowers subtended by spathaceous bracts. Perianth of 6 segments or 6-lobed, its tube adnate to the ovary, the segments or lobes in 2 series, convolute in the bud, withering-persistent. Stamens 3, inserted on the base of the 3 outer segments or lobes of the perianth: filaments filiform, distinct or united: anthers 2-celled, extrorse. Style 3 cleft, its branches sometimes divided. Ovary inferior, mostly 3-celled, with numerous or few anatropous ovules in each cell becoming a 3-celled, loculicidally dehiscent capsule. Embryo straight in fleshy or horny albumen.

- 1 **Iris** Outer segments of the perianth recurved; the inner erect: branches of the style petal-like, opposite to the anthers: filaments distinct: seeds flattened.
- 2 **Sisyrinchium** Segments of the perianth similar, spreading: branches of the style filiform alternate with the anthers: filaments united: seeds globular.

1 IRIS L. Sp. 38.

Herbs with creeping or horizontal, often woody and sometimes tuber bearing, rootstocks, erect or ascending stems, ensiform or linear leaves and large flowers in terminal racemes. Perianth of 6 clawed segments united below into a tube, the 3 outer dilated, spreading or reflexed; the 3 inner usually narrower and erect. Stamens inserted at the base of the outer segments of the perianth, distinct: anthers oblong or linear. Style 3-parted, its base adnate to the tube of the perianth, its branches thin and petal-like, resting upon the outer segments of the perianth and covering the stamens, stigmatic at the thin apex, above which is a broad 2-parted crest. Ovules numerous, in 2 rows in each cell. Seeds horizontal, flattened, or more or less turgid.

* Stems leafy: leaves linear: bracts of the spathe closely approximate, ^{See} bracteate foliaceous: tube of the perianth narrow, more or less elongated.

I. chrysophylla. Stems low and very slender, 2-8 inches high, from slender rootstocks: radical leaves linear, 6-18 inches long by 2-3 lines wide, light green, finely striate, thick and persistent for at least one winter: bracts lanceolate, long-acuminate, contiguous, 2-4 inches long: flowers 1-3, sessile or nearly so, yellow to white, with blue veins: perianth with filiform tube 2-3 inches long: outer segments 2-3 inches long, with long claw and broadly lanceolate blade, inner ones spatulate: filaments flat, bearded at base: capsule oblong or broader, nearly an inch long: seeds slightly compressed. In Pine woods, southern Oregon.

I. bracteata Watson Proc. Am. Acad. xx, 375. (Stems rather stout, 6-12 inches high, covered with imbricated sheathing bracts 2-4 inches long: leaves solitary, evergreen, rigid 1-2 feet long, 6-8 lines wide, or sometimes much smaller, striate, one side green, the other glaucous with numerous stomata: bracts of the spathe approximate: 2-3 inches long, short-acuminate usually 2-flowered: perianth yellow, with a short funnelform tube: outer segments oblong, naked, 2-3 inches long, the inner ones oblanceolate, somewhat shorter: capsule on exserted pedicels, ovate-oblong, an inch long. In open forests, about Waldo, southern Oregon.

I. Douglasiana Herbert, H. & A. Bot Beech. 395. Stems stout, 6-18 inches high: leaves linear, 12-30 inches long, 4-8 lines broad, thick and rather rigid; long acuminate, finely striate: bracts of the spathe lanceolate, 3-4 lines long, acuminate flowers several, somewhat paniced, on pedicels 6-18 lines long: perianth blue or purplish, the outer segments with a white centre veined with purple, its tube narrow, 6-12 lines long: capsule oblong, acutely triangular, 18-20 lines long: seeds nearly globular. Along the coast, southern Oregon to California.

* * Tube of the perianth short and funnelform above the ovary.

Rootstock slender: stems leafy: leaves not evergreen: bracts foliaceous, separate and often distant.

I. tenuis Watson Proc. Am. Acad. xvii, 380. Rootstock very slender and creeping: stems 8-10 inches high, with 2 or 3 bract-like leaves 2-3 inches long, 2-flowered: the longer leaves of the sterile branches of the rootstock equalling the stem and 4-6 lines broad, acuminate and very acute: bracts contiguous or distant, 1-2 inches long, flowers white, lightly blotched and striped with pale yellow and purple: perianth tube 2-3 lines long, the segments naked, the outer 15 lines long, a little exceeding the emarginate inner ones: capsule depressed-globose, 6 lines in diameter, on pedicels as long or longer than the bracts. In the Cascade Mountains along the Clackamas river and its tributaries in Oregon.

I. tenax Dougl. Bot. Reg. t. 1218. Rootstock slender, usually short and forming dense tufts 6-18 inches in diameter: stems slender 6-12 inches high, bearing several sheath-like short leaves and a single purple flower: leaves very numerous, 12-20 inches long, much longer than the stems, about 2 lines broad acuminate and mostly very acute: bracts lanceolate, acute: 1-2 inches long: tube of the perianth very short, its outer segments 2 inches long or more, with oblong blade and broad claw, the inner ones spatulate and nearly as long: capsule oblong, 8-12 lines long, obtuse at both ends: seeds scarcely flattened, somewhat angled obtusely. Common in open places, Brit. Columbia to Oregon. There is a white flowered form with narrow perianth and narrower ovary but it has scarcely enough characters for a species.

+ + Rootstock stout: stems naked or nearly so, usually tall: bracts contiguous or rarely separated.

I. longipetala Herbert H. & A. Bot. Beech. 369. Stems stout, 1-1½ feet high, 3-5 flowered: leaves about as high, 3-5 lines broad: bracts foliaceous, large and acuminate, 3-4 inches long: flowers very large, bright lilac, on stout pedicels 1-2 inches long, the tube funnelform, 3 lines long. outer segments 2½-3 inches long by 1-1¼ broad, narrowed to a short claw, white below and veined with violet, the midvein yellow: inner segments oblanceolate, 2 inches long: anthers shorter than the stigmas: style broadly crested: capsule oblong, narrowed at each end, 2 inches long: seeds flattened, nearly 3 lines long. In moist meadows, eastern Washington to California.

I. Missouriensis Nutt. Journ. Acad. Philad. vii, 58. Stems rather

slender, terete, naked or with 1 or 2 leaves, 6 inches to 2 feet high, usually 2-flowered: leaves two to three lines broad, mostly shorter than the stems: bracts dilated and scarious, 1-1½ inches long, acute or acuminate: flowers pale blue, on pedicels ½-2 inches long; tube of the perianth 3-4 lines long, narrowed below: outer segments 2-2½ inches long, the inner ones a little shorter, all with narrow claws: anthers not exceeding the filaments, equalling or exceeding the stigmas: capsule oblong, triangular or subterete, 1-2 inches long, acute at each end: seeds obovate, acute at base, 2 lines long. Eastern Washington to California and the Rocky Mountains.

2 SISYRINCHIUM L. Sp. 954.

Perennial herbs with short rootstocks, simple or branched stems, narrow grass-like leaves and showy flowers in small terminal clusters on filiform pedicels subtended by a pair of erect green bracts. Perianth 6-parted, the segments similar and spreading. Stamens 3, the filaments united, at least at base. Stigmas filiform, alternate with the stamens, involute. Ovary 3-celled, with several ovules in each cell. Capsule globose, oval or ovoid. Seeds subglobose or ovoid, smooth or pitted.

* Stems ancipital, usually branched: flowers blue: filaments united to the top: anthers short, sagittate: stigmas short.

S. bellum Watson Proc. Am. Acad. xii, 277. Stems 6-20 inches high, somewhat scabrous on the narrow margins, of a single node, or often with 2 or 3 nodes, each node bearing 1-4 peduncles: leaves a line or two wide, shorter than the stems: peduncles 2-4 inches long, usually about equaling the nodal bract: spathes of 2 nearly equal bracts 6-12 lines long, scabrous on the keel, 4-7-flowered: segments of the perianth broad-lanceolate, about 6 lines long, truncate but scarcely emarginate, shortly aristulate, light purple, darker below and yellow at base, somewhat pubescent as well as the ovary: staminal column 3 lines long, purplish, pubescent at base: capsule depressed-globose or ovoid, 2-3 lines long; the cells about 10-seeded: seeds irregularly and obtusely angled, roughened, ⅔ of a line in diameter. In wet places, Oregon to California.

S. segetum Bicknell Bull. Torr Bot. Club xxvi, 449. Rather pale green and somewhat glaucous, growing in close tufts: stems erect, slender, 4-11 inches high, simple: leaves 4-6 inches long, a line or less wide, sometimes roughish toward the setaceous or aculeate apex: spathes stiffly erect, the outer bract very slenderly attenuate, sometimes for fully half its length, 1-1½ inch long, subequal with or surpassing the inner one by ½ or more: flowers on very slender subspreading pedicels, deep violet-blue: segments of the perianth oblanceolate, obtuse aristulate, 6-7 lines long: capsule oblong or obovoid, transversely corrugated, many-seeded: seeds irregularly obovoid, less than a line long. On dry grassy plains, Washington and Oregon to Nevada.

S. angustifolium Mill. Gard. Dict. ed 7, 1859. Pale glaucous-green: stems slender 4-20 inches high, of a single node, or rarely forked: leaves rigid and often almost setaceous, 4-8 inches long, ¼-1¼ lines wide, shorter than the stem: spathes stiffly erect, the bracts very unequal, the outer one usually about twice as long as the inner: pedicels erect, about 8 lines long, shorter than the bracts: segments of the perianth oblanceolate, emarginate, 6-8 lines long, pale blue: capsule subglobose, 2-3 lines in diameter: seeds ½-¾ line in diameter. On grassy plains, Oregon to Brit. Columbia and Virginia.