

*Juncus* L. RUSH

*Juncus xiphioides* E. Meyer, IRISLEAF RUSH. Perennial herb, emergent aquatic, rhizomatous, fibrous-rooted, 1-stemmed at base, with shoots arising in a line from a rhizome but never from every node, not branched above base, erect, 30–90 cm tall; shoots with basal leaves and cauline leaves, lower several leaves = sheath with no blade (cataphylls), photosynthetic shoots irislike (*Iris*) with compressed stem and erect leaves covering most of stem, upper leaves overlapped by other lower leaves (equitant), with several–10 green leaves when flowering, glabrous; rhizomes horizontal creeping, to 4 mm in diameter, long, with sheathing scales, the scales to 15 mm long, white; adventitious roots 1–several at each node. **Stems (culms):** narrowly biconvex in  $\times$ -section, to 5 mm diameter, winged above base; with longitudinal, peripheral air canals and a solid core. **Leaves:** alternate distichous, simple with sheath; sheath closed for  $< 5$  mm above node, strongly keeled and folded, margins overlapping for 20–50 mm above fused base, photosynthetic and mostly green or tinged red and also membranous on free margins, the membranous margins appressed to younger leaf, to 2 mm wide; blade narrowly swordlike, biconvex and linear, several–400 mm long (the longest at midstem), 4–14 mm wide near sheath gradually tapered to tip, entire with 1 edge facing stem, parallel-veined having staggered transverse septa between principal veins, appearing lens-shaped in  $\times$ -section with large air spaces. **Inflorescence:** paniclelike, terminal, having a series of 3–6 successive forks, 60–80  $\times$  30–75 mm, with headlike clusters of flowers terminal on axes, cluster 4–7 mm across, ultimate branchlet 3–8-flowered but sometimes having 2 branchlets together, bracteate, glabrous; lower nodes with 1 short, divergent branch and the other branch long and  $\pm$  straight, the first internode of the long branch  $\pm$  equal to lengths of all successive forks of the shorter branch, at end of series internodes congested and appearing as a 3-fork or branching off of a straight axis (sympodial); bract subtending inflorescence leaflike and sheathing,  $\pm$  erect and appressed to dominant axis, 15–95 mm long, typically  $<$  inflorescence, green, mostly sheath or if longer having a blade; bracts at each fork 2, lower bract axial and upper bract sheathlike ( $\pm$  prophyll), whitish tan-membranous; bractlet subtending flower ovate with base clasping flower,  $< 2.5$  mm long, as wide as flower, whitish tan membranous, long-acuminate at tip; pedicel  $< 0.5$  mm long or absent. **Flower:** bisexual, radial,  $\pm 1$  mm across when perianth erect,  $\pm 2$  mm across at anthesis when perianth spreading; **sepals** 3, erect but spreading at anthesis, thick and  $\pm$  narrowly boatlike with a convex keel, 2.4–3.3  $\times$  0.5–6 mm, green to brownish red with a pair of red veins converging at tip ( $\wedge$ -like) while colorless to reddish on margins, acuminate at tip; **petals** 3, spreading at anthesis, flat and narrowly triangular, 2–3  $\times$  0.5–0.7 mm,  $\pm$  = sepals, 3-veined often with minor central vein and an outer pair of red veins converging at tip ( $\wedge$ -like), brownish and colorless on margins, acuminate to blunt-acute at tip; **stamens** 6, free, included (= top of perianth); filaments 0.5–1 mm long, whitish translucent; anthers basifixed, dithecal, linear-oblong, 1.7–2 mm long, pale yellow, longitudinally dehiscent; pollen pale yellow; **pistil** 1, to 8 mm long; ovary superior, 3-angled ovoid, ca. 1.3 mm long, green, 1-chambered with 20–30 ovules on 3 placentae; style short-exserted to long-exserted above flowers, lower axis 0.7–2.5 mm long, 3-branched, lower portion brownish pink or pale green, the branches initially corkscrewlike with 3–4 coils, becoming spreading when mature, 3–4 mm long, conspicuously pubescent.

**Fruit:** capsule, loculicidal, 3-valved, many-seeded, 3-angled lanceoloid to ellipsoid, 2.7–3.2 × 0.7–1 mm, pale brown, seeds visible through wall, acuminate at tip but not beaked; perianth appressed and persistent around fruit. **Seed:** ellipsoid or slightly ovoid or obovoid, 0.4–0.5 × 0.2–0.25 mm, constricted at both ends but more prominent at tip (tails absent), grayish orange-brown commonly with dark brown to nearly black at both ends or only at tip or as a ring at base of constriction, with 16–19 longitudinal ribs and netlike with cross ribs. Mid-April–late September.

Native. Perennial herb growing commonly throughout the range, in shady to sunny creek beds of canyons but also occurring in isolated seeps and freshwater wetlands. *Juncus xiphioides* is easily identified as resembling a slender iris with strongly flattened shoots, in this case with a nearly flat stem, and each cauline leaf has a sheath strongly folded and concealing the stem and the next leaf. This species has six stamens and conspicuously hairy, pink stigmatic branches, which are initially highly coiled when they first emerge from the perianth. This species has tiny, symmetric and ornately sculptured seeds.

B. A. Prigge & A. C. Gibson