

Cyperus involucratus Rottb., UMBRELLA PLANT. Perennial herb, ± aquatic, rhizomatous, fibrous-rooted, not rosetted, cespitose, many-stemmed at base, unbranched, erect, in range to 120 cm tall; shoots with several (–5) bladeless basal leaves + (4–)6–19 leaflike inflorescence bracts forming a reproductive canopy at tip of stem, bladeless leaves covering 50–210 mm of stem base, glabrous; rhizomes horizontal, thick, covered with fibrous bracts, internodes barely separating vertical shoots. **Stem (culm):** 3-sided (slender stems) to subcylindric, to 8 mm diameter, often with convex facets, green, tough, appearing smooth but ± scabrous. **Leaves:** alternate, sheath only; sheaths closed, forming a V-shaped opening ca. 1/4 length from tip, parallel-veined with veins slightly raised approaching tip and having evident cross venation, lower sheaths purple-black, upper sheaths scarious and straw-colored + green-veined (purplish-veined), minutely purple-spotted on upper margins; ligule absent. **Inflorescence:** spikelets clustered at ends of axes on radiating branches in a terminal, leafy paniclelike array, array appearing umbel-like, to 80 mm across, primary raylike branches (4–)6–25 + several clusters of sessile spikelets at tip, each primary branch subtended by an inflorescence bract (terminal spikelet clusters bractless) + a sheathing “bract” (prophyll), glabrous; main axis condensed, vertical, 5–20 mm long, whitish to light green; inflorescence bracts appearing helically alternate, spreading, leaflike but sheathless and fused to whitish axis, linear, 30–270 × 1.3–14 mm, the widest at or above midblade, successively shorter and narrower from base to tip of array, bracts >> reproductive canopy, green bracts flat, minutely scabrous and short-serrate on margins, parallel-veined with principal veins slightly sunken on upper surface and raised and scabrous on lower surface; primary branch axes (including rachis) to 70 mm long, lower branches spreading and upper ones ascending and reduced upward, slightly compressed front-to-back forming lateral edges to cylindric, some flat on upper side, with pulvinus at base on upper side and prophyll above pulvinus, pulvinus bulbous and greenish, primary prophyll 1.5–8.5 mm long, sheathing for 1–4.5 mm, sheath closed, the larger ones strongly 2-keeled, light greenish but straw-colored on upper portion, minutely toothed along keels especially above midpoint, many-veined with veins becoming reddish or purplish above pulvinus, orifice V-shaped on lower side, acute to rounded or truncate at tip but sometimes splitting and 2-toothed on upper side, upper prophylls reduced, whitish-membranous, lacking pigmented veins; bract subtending secondary branches scalelike to triangular and partially clasping, 1–3 mm long, acute to acuminate at tip and white-scarious, with veins converging at tip; secondary branch axes (including rachis) to 18 mm long, with secondary prophyll smaller than of primary branches and with or without pulvinus; third-order branchlets (if present) to 3 mm long, each subtended by reduced bract + prophyll, membranous and lacking pigmented veins, alternate distichous cluster of spikelets 2–7, to 10 mm across. **Spikelet** (3–4-order) 8–18(–28)-flowered, flattened lanceolate to lanceolate-ellipsoid, in range 3.5–6.5 × 1.5–2 mm, with alternate distichous bractlets (floral scales) subtending sessile flowers; **glumes** (bracts subtending spikelet) 2, lower glume deltate, ± 1 mm, upper glume broader and sheathing, membranous, rounded at tip; spikelet without pulvinus and not jointed, axis (rachilla) internodes < 0.5 mm long, minutely and incompletely 4-winged, wing segments scarious and brownish, persistent; bractlet appressed, overlapping, sheathing and clasping, ± prow-shaped, 1.4–1.9 mm long, closely 2-keeled from base and merging at or just below tip, concave and green between keels, pale green and membranous between keel and margins, obtuse or minutely pointed

at tip, 3-veined with lateral veins pronounced on keels, glabrous, deciduous. **Flower:** bisexual; **perianth** absent; **stamens** 3, free, exserted; filaments linear, 1.5–2.2 × 0.2 mm, translucent, flat; anthers basifixed, dithecal, 0.8–1.2 mm long (including sterile appendage at tip), yellow to light yellow, appendage narrowly tapered and whitish to reddish, longitudinally dehiscent; pollen yellow to light yellow; **pistil** 1; ovary superior, 3-angled ellipsoid, 0.35–0.6 mm long, greenish, 1-chambered with 1 ovule; style 1.2–1.5 mm long, 3-branched, the branches exserted, ± equal, ascending or later coiled, threadlike, 0.7–1 mm long, light yellow. **Fruit:** achene, 3-sided ellipsoid, 0.7–0.8 × 0.4–0.6 mm, light yellowish brown to light brown, broadly tapered at base, broadly acuminate to obtuse at tip, finely textured. January–December.

Naturalized. Rhizomatous perennial herb occurring in shallow, permanently wet drainage ditches and shallow creeks of SMM. *Cyperus involucratus*, formerly misidentified worldwide as *C. alternifolius* L., is cultivated in California as an aquatic emergent but has escaped and become a weed where supplemental water is available. This species is easy to identify because medium to large shoots have 10 or more spreading, green “leaves” (inflorescence bracts), so that the flowering shoot resembles an umbrella, hence the common name. The spikelets of just one shoot reliably produce thousands of small fruits.
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