

Cirsium vulgare (Savi) Tenore, BULL THISTLE. Annual or biennial herb, spinescent, taprooted, rosetted, 1-stemmed at base, with ascending lateral branches, for months only having basal rosette and in spring producing an ascending to erect shoot with inflorescences, 30–210 cm tall; shoots with basal leaves with some later becoming cauline leaves during shoot elongation (before flowering), cobwebby-tomentose and also with other types of nonglandular hairs. **Stems:** low-ridged and winged, to 15 mm diameter, with ridges descending and 2 spiny wings decurrent from each leaf, the wings leaflike, wavy to lobed and inrolled on margins having spines as tips of lobes, the spines sharp-tipped, to 9 mm long, tan, the wings like leaf blade tissue, stem with alternating stripes of fibrous (tan) and photosynthetic tissues (green), with very long, colorless shaggy hairs. **Leaves:** helically alternate, pinnately lobed to unlobed with spinose margins, with the lowest lobes diminutive increasing upward, sessile (wing-petiolate) to 340 mm long, without stipules; blade of basal leaves deeply lobed, oblong-elliptic, with spine tip = an extension of a principal vein, the spine to 14 mm long and tan; blade of cauline leaves lanceolate to oblanceolate in outline, to 340 × 100 mm several-lobed, the lobes paired with each lobe divided into lower and upper segments, having lower segment ascending and upper segment descending, upper segments ascending above blade plane and lower segments ± horizontal, or upper segments ± horizontal and lower segments descending below plane of blade, pinnately veined with principal veins conspicuously raised on lower surface, upper surface bumpy to cobblestonelike, bristly with prickles and hirsute hairs, lower surface cobwebby-tomentose. **Inflorescence:** heads, terminal, solitary or in cymelike arrays with several heads per flowering branch, head discoid, at anthesis 35–50 × 25–45 mm, with 140–200+ disc flowers, flowers exserted like a brush above involucre, bracteate, cobwebby-tomentose with long, colorless hairs; peduncle 10–60 mm long, with 2–6 leafy bracts along axis (bracts for future peduncles), 15–40 mm long, **involucre** urn-shaped to ovoid-spheric becoming hemispheric to broadly bell-shaped as fruits develop, 25–40 × 25–45 mm, phyllaries conspicuously helically arranged, 130–250 in ± 12 series, narrowly awl-shaped and sharply spine-tipped, curved and spreading to produce a 3-dimensional cover of spines radiating from appressed, expanded bases, with scattered cobwebby hairs, phyllaries of inner series appressed and flat, minutely serrate and membranous on margin approaching long-tapered tip; receptacle without bractlets (paleae), with many capillary hairs between ovaries, the hairs initially 4–6 mm long increasing to ± 12 mm long in fruit. **Disc flower:** bisexual, radial, ca. 5 mm across; **calyx (pappus)** of 40–60 bristles with fine, featherlike branches (plumose), 17–23(–30) mm long, silky white; **corolla** 5-lobed; tube narrowly cylindrical, 18–20 × 0.2 mm, white; throat 3.5–6 mm long, expanding from base to 0.7–0.8 mm at orifice, pale lavender to pale purple; lobes spreading above involucre, linear, 4.5–6(–7) × 0.2–0.3 mm, lavender or light to deep purple, with sinuses at 2 depths; **stamens** 5, fused to base of corolla throat; filaments exserted, ± 6 mm long, pale lavender, with short hairs along most of length; anthers fused into cylinder surrounding style, basifixed, dithecal, 3–6 mm long, blue-violet to reddish purple, tail-like at base, acute at tip, longitudinally dehiscent; pollen whitish; **pistil** 1; ovary inferior, obovoid compressed side-to-side, 1.5–1.8 mm long, white, glabrous, 1-chambered with 1 ovule; style exserted 3–5 mm above anthers, 25–27 mm long, mostly white changing to pale lavender in corolla tube and throat, 2-branched, with an oblique ring of short, fine hairs just below fork, the branches appressed, 3.5–4 mm long, reddish purple, stigmatic. **Fruits:** cypselae, oblong compressed side-to-side, 3.4–3.7(–4.5) × 1.5–

1.6 mm, light brown or tan with dark brown to blackish streaks, weakly 4-angled with smooth faces, sometimes weakly curved or slight bent approaching tip resulting in a slightly oblique form; pappus aging tawny. Early May–late October (flowering earlier in gardens).

Naturalized. Annual or biennial herb occurring at scattered localities throughout the range in sites with standing water or in disturbed grasslands. *Cirsium vulgare* is a spinescent thistle with colorful, pale purple flowers surrounded by an involucre with menacing, radiating spines (phyllaries).

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