

Achillea L. YARROW, MILFOIL

Achillea millefolium L., COMMON YARROW. Perennial herb, becoming dormant during late summer, rhizomatous, fibrous-rooted, rosetted with ascending leaves, typically unbranched below inflorescence, erect, in range 30–110 cm tall; shoots with finely dissected basal and cauline leaves, long-hairy and glandular-hairy with sessile, spheric hairs, strongly but pleasantly aromatic; rhizomes shallow, horizontal, 2–5+ mm diameter. **Stems:** many-ridged, to 5 mm diameter, with 3 ridges descending from each leaf, straight, green becoming pinkish to light brown, woolly and somewhat cobwebby. **Leaves:** helically alternate, 2–3-pinnately lobed with ultimate lobes arranged 3-dimensional, 35–370 × 5–35 mm, decreasing upward along stem, petiolate (basal and lower cauline leaves) and sessile (upper cauline leaves), without stipules; petiole to 35 mm long, indistinct from leaf axis, thin and strongly flattened, partially sheathing stem, with several parallel veins; blade ± narrowly oblong to narrowly oblanceolate, with alternate to opposite primary and secondary leaflets; rachis ridged on margins with 3 veins most of length (5-veined at base to 1-veined near tip), midrib larger than bordering veins and veins conspicuously raised on lower surface, ridged margins green or pinkish rose; primary leaflets arising on marginal ridge of rachis, the lowest leaflets pinnately dissected with 2–5 divisions, 1–2 mm long, other leaflets 1–2-pinnate, to 25 × 8 mm, with 2–11 divisions, venation inconspicuous on lobes; ultimate segments linear-lanceolate, mostly < 0.5 mm wide, ending in a colorless point at tip, upper surface sparsely long-hairy and glandular. **Inflorescence:** heads in flat-topped or convex arrays having 3–4 orders of branching, array mostly 50–170 × 35–70 mm, with many heads, the heads radiate, ca. 9 mm across, with (3–)5(–8) ray flowers and 8–16 disc flowers, bracteate, having scattered hairs to tomentose on axes; bract subtending peduncle of array = cauline leaf; axis of array 5–55 mm long; bracts along some (but not all) branches or subtending and along branchlets, reduced upward, the lower ones pinnately lobed, ca. 10 mm long, of upper branchlet bracts lanceolate to awl-shaped, ca. 2 mm long; peduncle (= 3rd or 4th order branchlet) 1–5 mm long; **involucre** urn-shaped aging bell-shaped in fruit, 4–5 × 2.3–3 mm, phyllaries typically 10–14, in 3 or 4 unequal series, ovate, 2–3.5 mm long, tomentose and mostly glandular, widely membranous on margins, obtuse to acute at tip and fringed or jagged on upper margin, green along midvein, becoming scarious in fruit; receptacle with ovate, transparent bractlets (paleae), paleae as long as unopened flower bud, the outermost ones subtending the outermost disc flowers and ± like the innermost phyllaries subtending ray flowers. **Ray flower:** pistillate, bilateral, ca. 2 mm across; **calyx (pappus)** absent; **corolla** mostly 3-toothed, glandular on outer surface of tube and limb; tube 1.2–1.5 mm long, greenish, expanded at base and covering tip of ovary, tapered to mouth; limb ± circular, 1.8–2.3 × 1.8–2.1 mm, white, rounded or with shallow teeth at tip; **stamens** absent; **pistil** 1; ovary inferior, flattened front-to-back and narrowly tapered, ca. 1.8 × 0.6 mm, whitish, 1-chambered with 1 brownish ovule visible within; style 1.5–1.7 mm long, swollen at base, 2-branched, pale green or whitish below branches, the branches exerted, arching, ca. 0.4 mm long, purplish, truncate to slightly 2-toothed at tip. **Disc flower:** bisexual, radial, ca. 1 mm wide; **calyx (pappus)** absent; **corolla** 5-lobed, 2.3–2.5 mm long, white, glandular on outer tube, throat, and lobes; tube cylindrical, ca. 0.5 mm long, flared at base and covering top of ovary; throat cylindrical but expanding in upper 1/3, 1.5–1.7 mm long, green below

midpoint and white above; lobes deltate, 0.3–0.6 mm, white; **stamens** 5, fused to corolla at base of throat; filaments ca. 0.7 mm long, white; anthers fused into cylinder surrounding style, partially exerted, basifixed, dithecal, 1.2–1.5 mm long, with an appendage at tip 0.2–0.4 mm long, light yellow, the sacs rounded at base, longitudinally dehiscent; pollen yellow; **pistil** 1; ovary inferior, narrowly inversely conic and compressed side-to-side, \pm 2 mm long, whitish or pale green, 1-chambered with 1 brownish ovule visible within, glabrous; style \pm 1.7 mm long, swollen and greenish at base, purplish red approaching tip, 2-branched, the branches exerted, ca. 0.5 mm long, dark purplish red, slightly expanded and truncate at stigmatic tips. **Fruits:** cypselae, dimorphic, of ray flowers cypselae compressed-obovate, $1.8\text{--}2 \times 0.7\text{--}0.9$ mm, whitish with dark brown seed visible through fruit wall, \pm ribbed on margins; of disc flower cypselae compressed wedge-shaped, $2.5\text{--}2.6 \times 0.6\text{--}0.9$ mm, pale to light tan with dark brown seed visible. Late March–late July.

Native. Perennial herb with aromatic, highly dissected leaves established in a number of isolated disturbed grasslands and coastal sage scrub throughout the range, but also in range may be found cultivated forms. *Achillea millefolium* clones via rhizomes and persists, even though during a very dry year shoots may not appear. The inflorescence of yarrow is a white, flat-topped array of many heads, technically described as corymbiform, and overall the array is showy, but the ray flower is only two millimeter across.

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