

Vascular Plants of Williamson County

Coreopsis lanceolata – LANCELEAF COREOPSIS, LANCELEAF TICKSEED [Asteraceae]

Coreopsis lanceolata L., LANCELEAF COREOPSIS, LANCELEAF TICKSEED. Perennial herb, not rosetted, 1–3-stemmed at base, unbranched below flowering canopy, in range to 50 cm tall; shoots with a pair of basal leaves, widely space cauline leaves below inflorescence, sparsely pubescent to nearly glabrous; rhizome \pm vertical, covered with persistent, flared and sheathing bases of paired leaf petioles; roots adventitious from rhizome. **Stems:** 6-ridged and angled aging inconspicuously angled, to 3.5(–5) mm diameter, with 3 ridges descending from each leaf (6 per node), tough, internodes to 80 m long, sparsely hairy with long weak hairs; internodes hollow. **Leaves:** opposite decussate, mostly simple but at least 1 pair of upper cauline leaves weakly lobed with (1–)2(–3) lobes at base of principal lobe, long-petiolate to petiolate and fused across node, without stipules; petiole of especially lower cauline leaves \gg blade, channeled, in range to 115 mm long decreasing upward and indistinct from blade, flared at base to 15 mm long decreasing upward, sometimes upper ridges sparsely ciliate; blade in range principally oblanceolate, 45–115 \times 10–17 mm, entire, if present basal lobes slender, to 30 mm long, pinnately veined with midrib sunken on upper surface and conspicuously raised on lower surface, with evenly spaced hairs on both surfaces. **Inflorescence:** heads, initially terminal having a pair of new shoots formed at base of long peduncle, head radiate, mostly 40–45 mm across, having commonly 8 neuter ray flowers and 100+ bisexual disc flowers, bracteate, mostly glabrous; peduncle stemlike, 160–240 mm long, green, deeply recessed into involucre of head and having 8–9 bracts in 2 close series fused at base at top of peduncle (calyculus; outer phyllaries of some authors), the bracts initially widely spreading beneath involucre, obtuse-ovate, in range 8–9 \times 3.5–4.5 mm, mostly green with paler margins 0.5 mm wide and having ca. 9 parallel veins from base, basal margins overlapping, densely short-ciliate on margins approaching tip sometimes with a crimson margin just inside the hairs; **involucre** of at least 9 phyllaries in 2 close series appearing as in a whorl from the solid base of the involucre, involucre 13–16 mm long, visible phyllaries ovate to deltate bent at midpoint and widely spreading (reflexed), mostly 9–11 \times 6.5–8 mm, green to midpoint and \pm yellow above bend, obtuse and papillate-ciliate at yellow tip; inner phyllaries often several, hidden at anthesis and poorly defined, the largest to elliptic and 6 mm long and greenish, decreasing inward in a graded series to colorless bractlets subtending the outermost disc flowers (paleae); receptacle hemispheroid, glabrous, with a bractlet subtending each disc flower, of the outer flowers oblong, $<$ flower, and colorless grading to long-acuminate (attenuate) bractlets \leq flower, 4.5–6 mm long, colorless at base and yellow from below midpoint, receptacle and bractlets glabrous. **Ray flower:** neuter (lacking a style), bilateral, 11–15 mm across (corolla); **calyx (pappus)** = 2 disfunctional awns appearing tuningforklike at top of ovary, 1–1.5 mm long, yellowish, persistent; **corolla** several-toothed; tube linear and flattened, 1.5 mm long, yellow; limb widely spreading, fan-shaped, in range 16–21 \times 11–15 mm, bright yellow with many fine veins from base, in range lacking dark spots or base, with 3–5 teeth on irregular outer margin, upper surface at base with a floor and lateral walls, minutely textured on upper surface, lower surface with a pair of veins \pm keels; 1–3 limbs sometimes having an ascending, lateral lobe at base, the lobe often lanceolate, to 10 mm long; **stamens** absent; **pistil** 1, sterile; ovary inferior,

rectangular and flat, ca. 2.5×0.8 mm, greenish; style absent. **Disc flower:** bisexual, radial, < 1 mm across; **calyx (pappus)** = 2 short awns above edges of ovary or having a third but diminutive awn on a side, functional awns to 0.5 mm long, colorless, persistent or not; **corolla** 5-lobed, in range 3.4–7 mm long; tube cylindric, $0.8\text{--}3 \times 0.4$ mm, colorless, lacking hairs, not swollen at base; throat narrowly funnel-shaped, 2–3+ mm long, colorless with 5 yellow veins; lobes triangular to deltate, 0.5–1 mm long, yellow; **stamens** 5, attached at top of corolla tube; filaments 1.3–3 mm long, colorless; anthers fused into cylinder surrounding style, basifixed, dithecal, sometimes mostly exerted from corolla, 1.5–2.6 mm long, with deltate appendages at top, longitudinally dehiscent; pollen yellow; **pistil** 1, 6.5–8 mm long; ovary inferior, broadly elliptic (incl. 2 incipient wings) strongly flattened front-to-back, ca. $1.2 \times 0.8 \times 0.25$ mm, translucent, lacking hairs, 1-chambered with 1 ovule; **nectary disc** surrounding base of style, 0.3–0.35 mm long, yellow, producing thin nectar; style exerted, erect, 2-forked in bud and above anthers, ca. 6 mm long, colorless at base and light yellow from below midpoint, the stigmatic branches divergent. **Fruits:** cypselae (achenes), cupped inward with a conspicuous pair of stiff wings (cartilaginous), when dry ca. 2.5×3.5 mm; fruit body obovoid compressed front-to-back arching to inner side, $2.5\text{--}3+ \times 1.7\text{--}2$ mm, black, finely textured, with low midrib on inner side, inner face with a bulbous thickening at top and bottom and have lighter colored warts; wings colorless drying light brown and with wavy margins, ca. 1 mm wide; awns 2 at top of cypselae, pointed sideways, to 0.5 mm long.

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