

Vascular Plants of Williamson County

Lindheimera texana – TEXAS STAR, STAR DAISY [Asteraceae]

Lindheimera texana A. Gray & Engelm., TEXAS STAR, STAR DAISY. Annual, robust, thick-taprooted, ± rosetted, 1-stemmed at base, beginning in canopy with ascending, flowering lateral branches, erect, (10–)30–120+ cm tall; monoecious; shoots with basal leaves and cauline leaves, ± hispid with hairs to 3 mm long, with inconspicuous, widely scattered, minute glandular hairs, foliage not aromatic. **Stems:** ± cylindric, to 12 mm diameter, light green, densely hispid; hollow. **Leaves:** helically alternate, simple, petiolate (basal leaves) and sessile (cauline leaves), without stipules; petiole flattened, to 30 × 4 mm, indistinct from blade; blade oblanceolate (basal leaves) to ± elliptic or broadly lanceolate (cauline leaves), 60–170 × 15–65 mm, long-tapered at base, coarsely serrate on margins but often entire approaching tip, blunt-acute to obtuse or slightly notched at tip, conspicuously pinnately veined and 1-veined from base, principal veins ± sunken on upper surface and conspicuously raised on lower surface, with shorter hispid hairs on margins, midrib whitish on both surfaces and to 6 mm wide at base. **Inflorescence:** heads, in leafy, cymelike arrays, array terminal on each shoot, heads on long, erect pedicel (to 110 mm long), head radiate, 25–30 mm across, with 4–5 pistillate ray flowers and 12–35+ functionally staminate disc flowers, bracteate, hispid and short-hispid with scattered glandular hairs; bract subtending each ascending bract, at base of flowering canopy 3 ± whorled or 2 opposite, with erect pedicel in center, at other nodes mostly 2 and opposite, decussate at successive nodes, each bract leaflike, spreading, sessile, ovate, to 110 × 55 mm decreasing upward, clasping axis base but not fused across node, with several teeth below midblade to entire, acute at top, upper surface pilose-hispid and lower surface mostly short-hairy; inflorescence internodes densely hairy; pedicel at anthesis to 25 mm long, mostly short-hairy, with scattered long-hispid hairs but also with scattered, tack-shaped hairs to 0.4 mm long having bright green heads, at the top of pedicel having a whorl of 5 bracts (calyculus, alternatively = outer phyllaries), initially ascending several mm above and free at base, lanceolate, 12–15 × 3–4 mm increasing to 20 × 5 mm and reflexed and persistent in fruit, 3-veined at base with a conspicuous midvein, having a blunt, reddish point at acuminate tip, mostly short-hairy with the longest hairs on margins with several tack-shaped hairs; **involucre** cup-shaped, 8–12 mm wide (excluding calyculus), phyllaries (4–)5 in 1 series opposite each ray flower, phyllaries ovate, 12–16 × 6–9 mm increasing to 22 × 11 mm in fruit, green, ± obtuse and blackish at tip, with 5+ principal veins, short-strigose (outer surface) and with shorter hairs on inner surface; receptacle ± domelike, with bractlet (palea) subtending each disc flower, paleae inrolled around ovary and concealing lower portion of disc flower, oblong-oblanceolate, 7.5–8.3 mm long, rounded on back, to midpoint whitish and glabrous, above midpoint mostly pale golden yellow and short-hairy on outer surface, acute at tip. **Ray flower:** pistillate, bilateral, 3.5–8 mm across; **calyx (pappus)** absent (awnlike structures = part of ovary); **corolla** shallowly 2-toothed, sometimes with a diminutive third middle tooth, or lacking teeth, with some tack-shaped hairs on tube and lower limb on the outer side and margins; tube compressed front-to-back, ca. 2 mm long, pale yellow, short-hairy; limb obovate, 10–14 mm long, bright yellow, with 5–10 parallel veins not conspicuously pigmented, short-hairy on lower surface; **stamens** absent; **pistil** 1; ovary inferior, obovate in outline and strongly compressed front-to-back

and with 2 awnlike structures on top, ca. 7.5 mm long (including “awns”), outer face convex, 6 – 5 mm, center glabrous and outer portion short-hairy with upward-projecting hairs, inner face concave with central rib and covered with mostly milky, club-shaped hairs, center at top with a curving, tail-like appendage hooked upward; style exerted, 3–3.5 mm long, 2-branched, pale orange, branches 0.5–1 mm long. **Disc flower:** appearing bisexual but functionally staminate, radial, 2.5–3 mm across; **calyx (pappus)** absent (awnlike structure of ovary); **corolla** 5-lobed, funnel-shaped; tube slightly 5-sided, 0.6–0.7 mm long, white, glabrous, throat ca. 2 mm long, golden yellow, with 5 veins to sinuses; lobes spreading, ± deltate, 1 mm long, with short hairs on edges and outer surface, conspicuously papillate on inner (upper) surface; at anthesis tube + throat filled with nectar; **stamens** 5, fused to corolla just below throat, exerted 1.5 mm; filaments ± 2 mm long, pale yellow; anthers fused in cylinder surrounding style, basifixed, dithecal, ± 1.9 mm long, striped purple and orangish, longitudinally dehiscent; pollen orange-yellow; **pistil** 1, sterile; ovary inferior, cylindric, white, lacking ovule; style with **nectary** at base, exerted slightly above anthers, 5–5.3 mm long, not branched, white and glabrous at base, above 1.5 mm golden yellow, conspicuously papillate above midpoint. **Fruits:** cypselae, monomorphic, dispersal unit of inner phyllary (palea) with appressed cypselae and 2 short-stalked, strongly inrolled paleae of adjacent disc flowers; phyllary spreading in starlike arrangement, obtuse-elliptic to ovate, 9–15(–22) × 4.6–7(–11) mm, light brown with fine brown veins, entire, uniformly short-hairs with ascending, straight, stiff hairs; cypselae 2-“awned” and winged, seed body with wings obovate and strongly flattened, ca. 6 × 5 mm, convex on hidden surface next to phyllary, seed body double-convex, glossy black (blue-green when immature), glabrous on hidden surface and conspicuously white, stiff-hairy on exposed surface with curved hairs, wing cupped, 1 mm wide, light brown and short-strigose, awnlike structures (part of ovary and not calyx) acuminate, 1.5–2 mm long, with tack-shaped hairs (also top of ovary); paleae to level of awns, light brown, short-hairy, including shriveled ovary of disc flower.

A. C. Gibson