

Vascular Plants of Williamson County

Vernonia lindheimeri – SILVER IRONWEED, WOOLLY IRONWEED [Asteraceae]

Vernonia lindheimeri A. Gray & Engelm., SILVER IRONWEED, WOOLLY IRONWEED. Perennial herb, not rosetted, caespitose and many-stemmed at base, with ascending principal branches and forming lateral flowering branches in canopy, in range 20–45 cm tall; shoots with only cauline leaves, leaves closely spaced, slender, and ascending, with margins inrolled under (revolute), white woolly-tomentose but upper surface aging glabrescent with sessile resin glands in pits. **Stems:** low-ridged, to 8 mm diameter, with 1 short ridge descending from each leaf, tomentose. **Leaves:** helically alternate, simple, short-petiolate, without stipules; petiole indistinct from blade, to 1 mm long, tomentose; blade linear and revolute base-to-tip, (23–)50–90 × 1–3 mm, dull dark green to olive, 1-veined with midrib sunken on upper surface and raised on lower surface, upper surface resin gland pits purplish, initially woolly-tomentose but at maturity lacking hairs (including wrapped on lower side), lower surface with white hairs hiding surface. **Inflorescence:** heads, in terminal, of umbel-like array of 5–7 heads on each branchlet, cymelike and flat-topped (corymbiform) 30–45 mm across, collectively for a principal branch to 120 mm across, each array having the central head terminal and others lateral with short internodes, head discoid, 15–20 mm across, of < 25 flowers, central flowers erect and peripheral flowers turned outward, bracteate, exposed surfaces appearing gray, woolly-tomentose and having minute glandular hairs; bract subtending peduncle leaflike and short-petiolate, linear, mostly < 15 × 2 mm, with revolute margins; peduncle ridged, 22–34 mm long, densely woolly-tomentose, bracts along axis to 3, awl-like and acuminate, to 2.5 mm long, purplish point at tip, tomentose on lower surface and with some hairs on upper surface; **involucre** bell-shaped in bud becoming ± funnel-shaped in flower, in range 10–11 × 5–6 mm, densely hairy and white to ash-gray with appressed, upward-pointing hairs, phyllaries 40+(–48) in at least 5 series, unequal, stiff (chartaceous), the outermost phyllaries acute-ovate, 2 × 1 mm green with white and red-purple margins, increasing inward with middle phyllaries 4 × 2 mm and inner phyllaries oblong and 6 × 2.5 mm and inner phyllaries 6.5–9 × 1–1.5 mm, middle phyllaries beige and reddish with purple above midpoint and sparsely hairy below midpoint, the innermost 1–3 phyllaries with acuminate lobe or pair of lobes from below midpoint on membranous margin and deep purple approaching acute tip; receptacle flat, lacking bractlets (paleae), deeply pitted (foveolate) with ovaries sunken and surrounded by crownlike rings having short hairs. **Disc flower:** bisexual, radial, 6–7 mm across (spreading corolla lobes) for peripheral flowers and 4 mm across for central flowers; **calyx (pappus)** of 20+ free, colorless, narrow scales (setae) in whorl (outer series) and ca. 50 bristles in whorl (inner series), the scales, stiff, 0.2–2.2 × 0.1–0.2 mm, the bristle ring fused to scales, ca. 7 mm long and exerted 4 mm from involucre, purple at base and pale purple above midpoint; **corolla** 5-lobed; tube + throat cylindrical, 6 × 0.4 mm, white at base only to pale purple to vibrant deep purple at top, with some colorless glandular hairs on outer surface; lobes narrowly triangular, ca. 4 × 0.7 mm long, deep purple, acute; **stamens** 5, attached to top of corolla tube; filaments 0.6 mm long, pale purple; anthers fused into cylinder surrounding style, basifixed, dithecal, 3 mm long + erect, acuminate appendages 1 mm long, sacs white and appendages intense purple, the appendages with glandular hairs, longitudinally dehiscent; pollen white; **pistil** 1; ovary inferior, wedge-shaped, 4-sided, and

conspicuously 10-ribbed, ca. 1.6×0.8 mm, white at base to pale pink-purple above, with subsessile glandular hairs in furrows, 1-chambered with 1 ovule; **nectary disc** surrounding base of style, 0.3 mm long, rose; style ca. 10.5 mm long, pale purple at base to below midpoint, intense purple at and above midpoint, 2-branched, the stigmatic branches exerted above anther appendages, erect, 3 mm long, with ascending papillate hairs.

Fruits: cypselae (achenes), somewhat columnar conspicuously 10-ribbed, $3.4\text{--}4.1 \times 1.2\text{--}1.3$ mm, purple with whitish ribs, having some short hairs along ribs and close to rim and sessile glandular hairs with conspicuous heads between ribs; pappus outer whorl of ca. 20 narrow scales to 1.3 mm long, inner whorl of ca. 50 capillary bristles 5–7 mm long, tawny (purplish before dry).

A. C. Gibson