

## Vascular Plants of Williamson County

*Rudbeckia amplexicaulis* – CLASPING CONEFLOWER, CLASPING-LEAF CONEFLOWER  
[Asteraceae]

*Rudbeckia amplexicaulis* Vahl, CLASPING CONEFLOWER, CLASPING-LEAF CONEFLOWER. Annual and short-lived perennial (in range), taprooted or with tuberous thickening (perennial), initially rosetted, 1-stemmed at base or with several ascending branches from near the base, in range to 50 cm tall; shoots with basal leaves and cauline leaves, lower leaves withered at flowering, shoots appearing glabrous except along leaf margins. **Stems:** ridged, white, basal perennial stem to 8 mm diameter, green with 3 ridges descending from each cauline leaf, internode < blade, glabrous. **Leaves:** helically alternate, simple and sessile with basal lobes  $\pm$  clasping (basal leaves only appearing petiolate), without stipules; blade oblanceolate (lower leaves) to ovate, < 50–96  $\times$  24–38 mm, basal lobes roundish, to 5 mm long, in range entire to subentire and short-ciliate (resembling minute teeth) on colorless margins, acute (obtuse) at tip, pinnately veined with midrib sunken on upper surface and principal veins raised on lower surface, surfaces lacking hairs, lower surface in range somewhat glaucous. **Inflorescence:** head, solitary terminal on long peduncle, head radiate, 42–48 across, of 6–10 neuter ray flowers and 200+ bisexual disc flowers on an elevated, conic to barrel-shaped axis 10+  $\times$  13 mm and with conspicuous depressed center at top, bracteate; peduncle conspicuously 8-ridged with deep furrows, with each ridge descending from an outer phyllary, to 220  $\times$  2 mm, green, tough, with scattered short-strigose upward-pointing hairs approaching involucre, bracts lacking along peduncle; **involucre** before anthesis outer phyllaries spreading soon strongly reflexed, of < 20 unequal and dimorphic phyllaries, reflexed outer phyllaries 8–9 in 1 series, narrowly triangular to acuminate-lanceolate, 4–9  $\times$  1.8–2.5 mm, green, short-ciliate on margins, inner phyllaries (elsewhere interpreted as paleae) = ray flowers,  $\pm$  trowel-shaped (4-sided obovate), ca. 3  $\times$  2 mm, white to midpoint and green above midpoint with a pair of lateral dark purple lines, short-hairy on back and short-ciliate on margins; receptacle conic to somewhat cylindrical, with bractlet (palea) subtending each disc flower and persistent, palea cupped around flower, when flattened oblong-oblanceolate to obovate, ca. 3.5  $\times$  1.2–1.5 mm, scarious and mostly white with green midline, having a pair of dark purple lateral lines approaching the widest point and a deltate top green with purple margins, on the back having a Y-shaped arrangement of short hairs and short-ciliate on margins at top. **Ray flower:** bilateral, 8–10 mm across; **calyx (pappus)** absent; **corolla** short 2–3-lobed; tube flattened front-to-back, 0.5–0.8 mm long, purplish red with pale orangish short-hirsute hairs; limb  $\pm$  elliptic, in range 16–20  $\times$  8–10 mm, golden yellow with the basal triangular 3–4 mm long brown (red pigment in cells = brown eye of head), upper surface papillate, lower surface with many somewhat raised parallel veins from base and short-hirsute with yellow hairs; **stamens** absent; **pistil** 1, sterile; ovary inferior, prismatic 3-sided,  $\pm$  2  $\times$  1  $\times$  0.5 mm, greenish, short-hairy along angles, 1-chambered; style and stigma absent. **Disc flower:** radial, 1 mm across; **calyx (pappus)** indistinct = rim 0.1 mm long on top of ovary; **corolla** 5-lobed, ca. 3.5 mm long, lacking hairs; tube 5-angled, 1 mm long, white, much expanded in fruit; throat lower portion 1 mm long, cylindrical, and greenish expanded in fruit and appearing photosynthetic among paleae, upper portion 1 mm long and strongly 5-ribbed, the ribs tinged purplish and furrows dark purple (= lines); lobes triangular

(extensions of throat ribs), 0.6–0.65 mm long, orangish, initially suberect later recurved; **stamens** 5, attached to top of corolla tube; filaments ca. 0.8 mm long, white; anthers fused into cylinder surrounding style, basifixed, dithecal, ca. 1.5 mm long including triangular appendages, initially only appendages exerted later anther cylinder exerted, dark purple, longitudinally dehiscent; pollen yellow-orange; **pistil** 1; ovary oblanceoloid, ca. 1.2 × 0.5 mm, white, glabrous, 1-chambered with 1 ovule; **nectary disc** conic surrounding base of style, 0.3–0.35 × 0.3–0.35 mm, white; style ± 5.5 mm long with 1+ mm exerted, 2-branched, lower portion white becoming purplish where exerted, the branches of most flowers ascending and linear, 1.5–1.7 mm long, dark purple, stigmatic above midpoint and short hairy, on some flowers branches much shorter (e.g., 0.5 mm long) and lighter in color. **Fruits:** cypselae (achenes) of only disc flowers, oblong, ca. 2 × 0.6–0.7 mm, black, conspicuously textured with lengthwise files of cells, glabrous; pappus = inconspicuous rim 0.1 mm long at top of cypselae.

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