

Vascular Plants of Williamson County

Ranunculus muricatus – ROUGHSEED BUTTERCUP [Ranunculaceae]

Ranunculus muricatus L., ROUGHSEED BUTTERCUP. Annual (perennial herb), densely fibrous-rooted from base of shoot, lacking horizontal rhizomes, initially rosetted, several-stemmed at base, principal branches often decumbent, in canopy forks having an erect and an ascending shoot from fork, to 30 cm tall; shoots initially with to 6 basal leaves and then 2–3 cauline leaves before a shoot forks to initiate flowering, glabrate or sparsely hairy; not bulbous at base; adventitious roots to 15 cm deep, not tuberlike. **Stems:** cylindric, to 5 mm diameter (somewhat compressed), straight to somewhat zigzagged, light green but especially lower portion paler, glabrescent; internodes hollow. **Leaves:** helically alternate, unlobed with jagged margins or shallowly 3-divided to 5-divided (basal leaves) to 3-lobed each often with ca. 3 subterminal sublobes or rounded teeth (cauline leaves), petiolate especially winged at base (stipulelike); petiole with a pair of membranous wings (stipules), membranous tissue to 30 × 4 mm, the largest blades with the longest petiole to 115 mm long decreasing upward, the larger wings initially fused around stem (closed) later split apart by growth of shoot, petiole narrowly channeled; blade of lower leaves somewhat kidney-shaped coarsely toothed or divided to about midblade, to 7-veined at base with principal veins sunken on upper surface and slightly raised on lower surface, cauline leaves 3-lobed with sinuses or without conspicuous sinuses, blades of the lowest basal leaves somewhat kidney-shaped or heart-shaped to round in outline, shallowly to deeply 3-lobed with wedge-shaped lobes, < 15–80 × < 20–80 mm, the smaller blades length < width, cordate at base, palmately 3-veined and on large blades the lateral veined then 3-branched to lateral lobes, coarsely crenate on margins; especially on small plants most basal leaves 3-foliolate, widely heart-shaped in outline, to 45 × 60 mm, length < width, with wedge-shaped to fan-shaped segments, terminal segment symmetric, to 35 mm long, having sublobes and teeth rounded to obtuse decreasing center to side, palmately 3-veined at tapered base, lateral lobes asymmetric, terminal > paired lateral segments, having 2 principal veins at base; on robust plant basal leaves large, round and deeply palmately 3-lobed and each lobe often with 3 sublobes; blade of cauline leaves deeply 3-parted, often with sublobes on the 3 principal lobes, upper leaves dissected into 3 narrower lobes with or without 1 or more sublobes, ultimate segments lanceolate-linear to oblanceolate-linear. **Inflorescence:** leafy cyme, terminal and axillary, on a robust plant many-flowered, branches several-flowered maturing open, bracteate, with firm hairs on light green axes and bracts and bractlets; bract subtending the lowest branch leaflike, with 3 principal lobes often having narrower sublobes, < 50 mm long, and petiolate, at success nodes decreasing in length and changing to sessile and palmately dissected to 3-lobed having lanceolate-linear lobes with or without shorter sublobes then 2-lobed or 1-lobed; bractlet subtending pedicel leaflike, obovate in outline mostly with 1 lobe or a pair of lobes close to the tip, glabrous; pedicel somewhat 4-sided, to 30 mm long increasing 2× in fruit (to 70 mm), initially short-hirsute with upward-pointing hairs aging glabrescent or lacking hairs and elliptic in x-section. **Flower:** bisexual, radiate, 10–16 mm across (spreading petals), in bud broadly spindle-shaped, green, and appearing 5-lobed, sparsely hirsute with several hairs along each sepal midlines; receptacle bullet-shaped (torus) elongating after anthesis, the torus ca. 2 × 1.3 mm, with hirsute hairs to 1 mm long between pistils; **sepals** 5 in a whorl and scarcely overlapping, becoming strongly reflexed 1–3 mm above base and upper

portion boat-shaped deeply cupped to outer (upper) surface, ovate, in range 5–7 × 2–3 mm, ± colorless and membranous at base, above bend pale light yellow to light yellow-green, 5-veined at base, obtuse and somewhat cupped at tip, hairs sometimes with greatly enlarged bases; **petals** 5 in a whorl and not overlapping, initially ascending later widely spreading, not clawed, obovate not noticeably cupped upward, in range (4–)5–7.5 × 3–4.3 mm, bright yellow (colorless at subtruncate base) and upper surface highly glossy (varnishlike), rounded at tip, with 5 radiating veins at base increasing at top, glabrous; above each petal base = wedge-shaped flap attached to upper petal base covering **nectary**, flap flat fused to midpoint from base of petal, 1 × 0.7–0.8 mm, yellow, irregular to low-crenate at free top, bright yellow not glossy, nectar beneath flap thin; **stamens** ± 20 in 2 series, helically alternate, at anthesis appearing flat-topped later widely spreading surrounding base of torus, free, 3.5–6.5 mm long, staminodes absent; filaments slender, light yellow but colorless at base, glabrous; anthers basifixed, dithecal, 0.7–1.5 mm long, yellow, longitudinally dehiscent; pollen yellow; **pistils** 10–25, helically alternate, on bullet-shaped torus to 2 × 1.3 mm, each pistil vertically oriented and inverted ear-shaped with flat edge facing torus and curved edge projecting outward, at pollination ca. 2.5 × 1.3 mm, crowded at bases; ovaries superior, compressed side-to-side, light green on margins and paler above chamber, at anthesis recessed faces of chamber with bumps (tubercles) already becoming elongate, 1-chambered with 1 ovule attached at base; style acute with stigma curved at tip and decurrent along inner side (adaxial) of style ca. 1.5 mm, papillate. **Fruits:** achenes, 15–25 in a cluster 8–12 × 9–17 mm, with persistent beak, helically arranged on torus in a tight gyre, flame-shaped and ovate in outline, 5–7 × 2.8–3.5 mm including beak 2–2.5 mm long, body rim 1 mm thick and faces recessed, each face translucent and bearing ca. 15–25 radiating papillate-tubercles (prickles) 0.5–1.3 mm long, the prickles comblike (not sharp-pointed), prickles lacking on achene rims; at top of beak (style) having a short hook (stigmatic tip); torus with straight hispid hairs to 1 mm long; sepals persistent beneath cluster of achenes.

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