

Vascular Plants of Williamson County

Zanthoxylum hirsutum – TICKLE-TONGUE, PRICKLY ASH, TOOTHACHE TREE [Rutaceae]

Zanthoxylum hirsutum Buckl., TICKLE-TONGUE, PRICKLY ASH, TOOTHACHE TREE. Shrub to small tree, winter-deciduous, spinescent, in range to 550 cm tall; dioecious (or with occasional bisexual flowers); shoots with dark green foliage (shady) to paler and dull, 50–220 mm long, having some broad-based prickles along stems and many leaf axes, the prickles compressed side-to-side and strongly spreading from axes, on twigs prickles to 11 mm long and \pm straight to slightly curved, initially red-purple with golden point, foliage and axes gland-dotted and mildly to strongly aromatic when crushed or handled; bark of trunk tight, dull gray, spineless or with widely spaced prickles but trunk lacking projecting corky mounds (present in *Z. clava-herculis*). **Stems:** cylindric, glabrous or pubescent aging glabrescent, leaf scar broadly heart-shaped 2.8–3.5 mm across; prickles not nodal but occurring along internode, radiating to angled slightly downward, woody, 2.5–5 mm long on broad mound and sharp-tipped. **Leaves:** helically alternate, odd-1-pinnately compound with 2–5(–6) opposite or subopposite pairs of lateral leaflets spreading \perp from and arising from upper side of rachis, petiolate, without stipules or stipels; petiole cylindric, < 10–45 mm long, with pulvinuslike base red-purple and on sun-exposed side, puberulent, above pulvinus sometimes with 1–4 prickles, initially short-hirsute on upper side and with short-stalked glandular hairs aging crimson (also on rachis); rachis mostly cylindric, 30–90+ mm long, puberulent with nonglandular hairs and some stalked glandular hairs, often with 1–several prickles per segment to 10 mm long, the prickles formed on upper side \pm subtending leaflet (0–2 per pair of lateral leaflets or sometimes a mound of green tissue not forming a prickle) straight and sharp-tipped to curved to 8 mm long, glands on rachis sometimes turning red (crimson); petiolule of lateral leaflets absent (pseudopetiolute) = narrowed base of blade, inrolled to the lower side and wavy, 2.5–4 \times 1–2 mm, edges with oil glands, short-hairy to puberulent, of terminal leaflet shallowly channeled and to 15 mm long; blades of leaflets broadly lanceolate or ovate to elliptic asymmetric (lateral leaflets) and symmetric (terminal), 20–67 \times 7–34 mm, appearing broadly tapered to \pm truncate at base + pseudopetiolute, low crenate-serrate with teeth mostly rounded, with a subspheroid oil gland at each sinus, appearing acute or acuminate to obtuse at tip but instead tip narrowly truncate to notched with gland midpoint (in notch), pinnately veined with midrib slightly sunken on upper surface and raised to slightly raised on lower surface, upper surface glossy or not and initially short-hirsute along midrib, lower surface with conspicuous, darker minor veins, initially with sessile glandular hairs along midrib and next to midrib, leaflet when developing rose-crimson at base with fleshy hairs at abscission zone. **Inflorescence:** panicle, terminal on new spring shoot, \pm open, panicle typically unisexual, to 70 mm long, with 3 orders of branching, many-flowered, with main axis and ascending, helically alternate lateral branches somewhat angled, each primary branch having a terminal cyme with to 12 flowers, flowers erect, bracteate; bract subtending panicle leaflike but diminutive 3-foliolate or 5-foliolate; bract subtending lateral branchlet oblanceolate-linear to linear, 1–5 mm long decreasing upward, with inconspicuous teeth and a gland at tip; primary branch to 20 mm long, rachis and branch axes \pm 4-sided, puberulent to short-hirsute and gland-dotted; bractlet subtending pedicel and along pedicel \pm linear, < 0.8–1.5 mm long, often with oil gland at top; pedicel cylindric, at anthesis

1.5–4.5 mm long, glabrous or glabrate to sparsely short-hirsute with radiating hairs, sometimes with another bractlet along pedicel. **Staminate flower:** radial, 5–6 mm across, sweetly scented; receptacle domelike to broadly conic, glossy green; **sepals** 4–5 (rarely 10 in 2 whorls!), appressed and cupping the lower portion of filament, \pm oblong or elliptic to oblanceolate, $1.2\text{--}2 \times 0.25$ mm, yellow-green sometimes with narrow whitish margins, 1-veined, often with oil gland near tip; **petals** 5, in bud cupped-oblanceolate or cupped-obovate to cupped-elliptic, $(3\text{--})3.5\text{--}4 \times 1\text{--}2$ mm, yellow-green with whitish margins and tip, the tip subtruncate to irregularly shallowly notch, rounded (slightly keeled) on back, inconspicuously minutely sessile glandular hairs; **stamens** (4–)5 (not always = petals), opposite sepals; filaments mostly ascending to suberect (in bud strongly curved inward) and exposed between and slipping outside petals, 3–4 mm long, whitish to pale green (green in bud), basal portion becoming fleshy and persistent at ovary base; anthers dorsifixed, dithecal, exserted, broadly arrow-shaped, $(1.3\text{--})1.7\text{--}2$ mm long, light yellow to light greenish yellow, longitudinally dehiscent; pollen golden yellow; **pistil** vestigial, with short style to 0.5 mm long. **Pistillate flower:** radial, ca. 5 mm across, sweetly scented; receptacle domelike to broadly conic, glossy green; **sepals** 4–6, appressed and cupping the lower portion of filament, unequal, ovate, $\pm 1.5 \times 0.8$ mm, greenish with irregular, colorless margins, 1-veined, with several minute teeth; **petals** 4–6, oblong to ovate, $2.4\text{--}2.8 \times 0.7\text{--}0.8$ mm, green with narrow white margins; **stamens** = 5 staminodes with abortive anthers, ovate and flattened, ca. 0.5×0.3 mm, appressive to receptacle with ovaries, having a short filament, colorless with reddish near tip; **pistils** 1–2, 2 mm long, separate or essentially so; ovaries superior, $1.2\text{--}1.3 \times 1.2\text{--}1.3$ mm, green, having a straight inner side and a hemispheric bump on outer side at top, the bump dotted with slightly sunken glands, glabrous, each 1-chambered with 2 ovules; style somewhat lateral at top on straight inner side at end of ridge, having a ridge on top between hemispheric bump and style; style ascending to curved, 1.1–1.7 mm long, light green, if only 1 pistil style arching over top of ovary, with broad, hemispheric-capitate stigma. **Fruits:** follicles, 1–2 per flower, with valves spreading and splitting sideways, follicle 1-seeded with seed pushed outward from chamber, stiff-leathery, immature ovoid ca. 6–7 mm long including fine point when open ca. 6 mm, brown, pitted with sunken glands. **Seed:** plump D-shaped, $4.2\text{--}4.8 \times 3\text{--}3.2$ mm, glossy black, wrinkled, faintly textured; the hilum off-center on straight edge.

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