

Vascular Plants of Williamson County

Amaranthus polygonoides – TROPICAL AMARANTH, SMARTWEED AMARANTH,
BERLANDIER'S AMARANTH [Amaranthaceae]

Amaranthus polygonoides L., TROPICAL AMARANTH, SMARTWEED AMARANTH, BERLANDIER'S AMARANTH. Annual, taprooted, not rosetted, 2–many-stemmed at base (the lowest pair of lateral branches at top of rose-purple hypocotyl from cotyledonary node, initial plant erect later with ascending to spreading branches, in range to 35 cm tall; monoecious; shoots with only cauline leaves, having shaggy short hairs only on stems, especially in flowering canopy, with foliage and inflorescence glabrous. **Stems:** ± cylindrical, to 4 mm diameter, reddish to green with whitish streaks ± straight on main axis (crystals within cells). **Leaves:** helically alternate, simple, petiolate, without stipules; petiole hemi-cylindric, mostly < 5 mm long (appearing much longer) indistinct from long-tapered blade, whitish with pale green on upper side and grading into base of blade with a pair of green stripes and white pargins, glabrous; blade lanceolate or narrowly elliptic to narrowly oblanceolate or oblong, 5–35+ × < 1–11+ mm, long-tapered at base, entire and often wavy on whitish margins, rounded or truncate to slightly notched with needlelike point (extension of midrib) at tip (mostly mucronate and emarginate), mucro to 0.7 mm long, pinnately veined with principal veins or midrib sunken on upper surface and principal veins raised on lower surface, when fresh upper surface of larger leaves often with gray chevron in midportion, lower surface ± grayish green with mottled veins. **Inflorescence:** condensed cyme of unisexual flowers (cymules), axillary, to 10 mm long, several–20+-flowered, having 1–3 staminate flowers with early anthesis in center at base of cymule and several axes of pistillate flowers surrounding and above, bracteate, glabrous; bract subtending peduncle of cyme acuminate, half-sheathing, and spine-tipped, ± keeled, to 3 mm long, membranous with green midvein aging scarious; peduncle of cyme not stout and flexible; bracts along rachis and bractlet subtending flower awl-shaped, lanceolate with short point at tip, at anthesis > perianth, membranous with green midstripe aging scarious, bractlet (bracteole) subtending flower 1, resembling bract but smaller, ca. 60° alternate to bract, persistent on rachis. **Staminate flower:** radial, < 1 mm across; **tepals** (perianth parts) 5, unequal, ± narrowly lanceolate with short point at tip, 0.8–1.4 mm long, > bractlet, not keeled, membranous aging scarious with or without green midstripe; **stamens** 2(–3), free, included; filaments 0.6–0.8 mm long, whitish; anthers dorsifixed, dithecal, 0.6–0.7 mm long, pale yellow, longitudinally dehiscent; pollen yellowish white; **pistil** absent. **Pistillate flower:** radial, < 1 mm across; **perianth (tepals)** 5-lobed, fused ca. 1/3 from base and persistent as tube around fruit base, at anthesis ca. 1 mm long, not spinescent; lobes subequal, at anthesis oblanceolate, membranous aging scarious and 3-veined with midvein conspicuous and dark green, obtuse to rounded with or without a short point at tip; **stamens** absent; **pistil** 1, ca. 1.2 mm long; ovary superior, compressed-ovoid, ca. 0.7 mm long, green, 1-chambered with 1 ovule; styles 3, exserted, arching ascending; stigmas papillate. **Fruit:** compressed utricle, indehiscent or dehiscent around circumference (circumscissile) with top tardily separated as cap, 1-seeded, somewhat oblong, 2–2.6 mm long (including styles), papery and light brown, surrounded by persistent, scarious perianth, unit easily abscising from plant, with 3 persistent, suberect styles exserted from perianth, cap when present ca. 1.7 mm long, ribbed and wrinkled

above abscission, the lower portion relatively smooth; perianth papery, to 2.3 mm long, light brown, tube \pm barrel-shaped slightly compressed, $0.6\text{--}0.7 \times 0.8\text{--}1 \times 0.5\text{--}0.7$ mm, lobes spreading, scarious with dark midvein, obovate, to 0.5 mm wide, having 3 raised veins below midpoint, with or without short point at tip. **Seed:** ovoid lens-shaped (lenticular), 0.8–1.0 mm diameter, glossy blackish red (lighter red when immature), smooth.

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