

## Vascular Plants of Williamson County

### *Gomphrena nealleyi* – NEALLEY GLOBE-AMARANTH [Amaranthaceae]

*Gomphrena nealleyi* J. M. Coult. & E. M. Fisher, NEALLEY GLOBE-AMARANTH. Perennial herb, fleshy-taprooted (having anomalous secondary thickening), not rosetted, several stemmed at base, principal branches procumbent to decumbent and forking at nodes, having spreading to ascending inflorescences, in range < 10–25 cm tall; shoots with only paired cauline leaves, not having different size leaves at each node (not anisophyllous), axes and foliage initially pilose aging with persistent hairs mostly appressed but upper blades appearing glabrous. **Stems:** cylindric but at plant base enlarged at lower nodes, mostly 2 mm diameter but the lowermost stem to 6 mm diameter, internodes to 100 mm long, swollen at base of each internode (pulvinuslike), appressed-pilose, lower internodes also having stalked glandular hairs, finely light-striped and internodes sometimes reddish; at node many pilose hairs arising from axillary buds; internodes with anomalous secondary thickening. **Leaves:** opposite decussate, simple, petiolate fused across node, without stipules; petiole cupped upward, to 6 mm long, indistinct from blade, pilose; blade elliptic or narrowly obovate to narrowly ovate or oblanceolate, in range 10–35 × 2.5–11 mm, tapered at base, entire, broadly acute to obtuse with short point at tip, pinnately veined with midrib sunken below and raised above midblade and principal veins slightly sunken and on lower surface midrib raised, mature leaves mostly appearing glabrous on upper surface and lower surface appressed-pilose with fine, relatively straight hairs to 3.5 mm long.

**Inflorescence:** headlike spike, terminal on a long internode (peduncle) from each canopy branch and branchlet, along the shoot arising at a node paired later with an emerging axillary shoot (also forming a terminal spike), spike subtended by a conspicuous pair of leaflike bracts, sessile, of many flowers formed helically alternate along rachis with very short internodes, spike rounded ovoid, initially ca. 7 × 7 mm forming new flowers upward (indeterminant) increasing to 25+ × 10–12 mm, older spikes with florets abscising from base upward, bracteate; peduncle stemlike, to 120 mm long, appressed-pilose; bracts subtending spike opposite, widely spreading, ovate and subsessile, to 15 × 8 mm; spike rachis with a dense patch of white hairs to 1.5 mm long directly above each flower; bractlet subtending sessile flower ascending later widely spreading, membranous aging scarious, triangular and somewhat cupped beneath flower, 2.5–3 × 1.8–2 mm, truncate at base, midrib = several veins and raised on lower surface, glabrous; flower compressed top-to-bottom bracketed with an opposite pair of subequal, scarious bracteoles (“bractlets”) folded over the edges and having overlapping margins, bracteoles ovate (flattened) truncate at base and strongly keeled, in range 5–5.6 × 3 mm (flattened), only jagged approaching tip (cristate), glossy on inner (upper) surface. **Flower:** bisexual, somewhat bilateral, to 2 mm across; **sepals (tepals)** 5, helically alternate, erect, triangular, in range 4–5 × 0.75 mm, membranous aging scarious, acuminate to acute (not oblong), at least the outer 2 striped with a green center, outer (lower) surface forming fine hairs on green tissue growing at maturity to 5 mm long, hairs absent on colorless surfaces; **stamens** 5, colorless at base by light yellow 1 mm at top; filaments fused into erect, ± cylindric column, ca. 4 mm long, 0.8 mm wide across ovary and 0.6 mm at orifice, aging papery white, glabrous and without glandular hairs, at top with 5 pairs of lobes mostly triangular to 3-sided, to 0.5 mm long, having a truncate sinus; anther basifixed arising from truncate sinus, dithecal, 0.6–0.7 mm long, longitudinally dehiscent; pollen light yellow; **pistil** 1, to 1.7 mm long, included;

ovary superior, lenticular compressed and biconvex, ca. 1 mm long, pale green, glabrous, 1-chambered with 1 ovule; style 1, erect, ca. 0.7 mm long, 2-branched, the stalk light green, the stigmatic branches appressed, ca. 0.5 mm long, white. **Fruit:** utricle, 1-seeded, indehiscent, dispersed within a floret unit including 2 keeled bracteoles enclosing the withered parts of the flower around the seed-bearing pistil, the unit hemi-ovoid, ca. 5–5.5 × 3 mm and scarious, inside bracteoles densely fine hairy (sepals) concealing utricle enclosed by the filament column, filament column stretched around bulging seed; utricle with delicate, papery wall separated with difficulty from filament column, ca. 2 mm long. **Seed:** chunky ovoid slightly compressed appearing lobsterclawlike on the 2 faces (furrow between the radicle and cotyledons of the embryo), in range 1.5–1.7 × 1.2 × 0.8 mm, before aging glossy light orange brown with faces mostly brown to reddish brown and furrow dark red.

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