

Vascular Plants of Williamson County

Nolina lindheimeriana – DEVIL'S SHOESTRING, LINDHEIMER'S NOLINA, RIBBON-GRASS
[Asparagaceae/Ruscaceae, not Agavaceae]

Nolina lindheimeriana (Scheele) S. Watson, DEVIL'S SHOESTRING, LINDHEIMER'S NOLINA, RIBBON-GRASS. Perennial herb, evergreen, sclerophyllous, with large caudex, fibrous-rooted, acaulous (of most authors), rosetted with several basal rosettes on caudex plant leaves forming dense, hemispheroid canopy to 70 cm tall, having inflorescences mostly partially fully exerted from basal rosettes, in range to 200 cm tall (not observed); dioecious; large plant with 100+ long, extremely tough fibrous, flexuous, and somewhat twisted basal leaves, foliage glabrous, not glaucous, and notably scabrous. **Stems (peduncles):** many-ridged, of lateral axes 5+ mm diameter, whitish (hidden by leaves), fibrous. **Leaves:** helically alternate, simple without sheath but with expanded base; blade of rosette leaves spreading to ascending, strap-shaped linear, the longest possibly 1600+ mm long, leaf bases 20+ mm wide, triangular and 1/2-sheathing stem, to 70 mm long, mostly white; photosynthetic blade flattened and cupped to upper side, ca. 5 mm wide and tapered from midblade to tip, minutely toothed and scabrous on margins, parallel-veined and slightly sunken between veins on both surfaces, upper surface "midrib" scabrous. **Inflorescence:** panicle, terminal on rosetted shoot, panicle = from midpoint of erect shoot, 2000+-flowered, primary branches spreading to ascending-spreading and alternate, flowers in condensed cymes at nodes of the ultimate branch axis, the nodes < 5 mm apart, mostly 2-3-flowered (staminate) and 1-2-flowered (pistillate), flowers appearing bisexual but functionally unisexual, bracteate, glabrous; shoot unbranched to midpoint with widely spaced, helically alternate cauline leaves (bracts), sessile, thin cauline leaves (= flattened blade), long-tapered to slender tip, from 350+ × 12 mm decreasing upward, at the node subtending peduncle (bract) to 80 mm long, the longer leaves having membranous margins at base narrowing to margins with sparse, low, scabrous teeth from below midblade to tip, bracts of primary branches at successive nodes decreasing in length and wide, linear and soon dry and breaking; peduncle finely ridged, tough, and green, approaching the lowest primary branch 5+ mm diameter with 4 ridges descending from each branch bract; primary branches to 120 mm long and unbranched (pistillate) or to 150 mm long and with several-12 alternate, ascending branchlets to 30 mm long bearing condensed cymes (15-20 flowers); bract subtending primary branch and branchlet decreasing upward; axis bearing cymes ridged to somewhat angled, light green (staminate) or darker (pistillate); bractlet subtending cyme of the first staminate flower to 3 mm long with slightly thickened greenish base and wide, somewhat sheathing, membranous-scarious blade, bractlet subtending pedicels of second and third staminate flower shorter, narrower, and scarious; bractlet subtending cyme of first pistillate flower 3.5-4 mm long with base conspicuously thickened, green, and persistent with acute-ovate scarious blade, bractlet subtending pedicel of second pistillate flower narrower and to 2 mm long; pedicel of staminate flower arched, to 3 mm long with abscission zone (jointed) ca. 1 mm from base, greenish white, of pistillate flower arched to drooping, 6-7 mm long with abscission zone 2-3 mm from base, pale green, lower portion of abscised flowers persistent. **Staminate flower:** appearing bisexual but pistil sterile, radial, 4-4.5 mm across; **tepals** 6 in 2 whorls, corolla dish-shaped, tepals free, monomorphic, widely spreading, broadly elliptic to obovate not strongly cupped, narrow at base, ± 3 × 1.5 mm, appearing cream-colored with center pale

yellow in bud, with tuft of papillae at tip; **stamens** 6, opposite tepals and fused to tepals at narrow bases, fertile; filaments ascending, tapered base-to-tip, ca. 1 mm long, white; anthers dorsifixed, dithecal, 1 mm long, appearing pale yellow (wall translucent), longitudinally dehiscent; pollen light yellow; **nectary** nectar-producing along septa at base, producing copious, thin nectar; **pistil** 1, sterile (pistiloid); ovary superior, 3-lobed (6-angled) 1 × 1 mm, translucent, 3-chambered but each chamber with 2 vestigial ovules; stigmas 3, vestigial, white, lacking papillae. **Pistillate flower:** appearing bisexual but having sterile anthers, radial, mostly 2 mm across; **tepals** 6(8) in 2 whorls, corolla at anthesis dish-shaped, tepals appearing fused at base broadly and permanently attached to receptacle, monomorphic, ovate to broadly elliptic-ovate, 2–2.3 × 1.2 mm, thickened light green with relatively wide, thin whitish margins overlapping at base, acute to obtuse at tip with a tuft of colorless papillae, aging scarious appressed to fruit sides (outer tepals) and angles (inner tepals); **stamens** = 6(8) staminodes, opposite tepals and fused to tepals near bases, 1 mm long, with sterile anthers; filaments erect, free portion tapered, 0.5 mm long; anthers dorsifixed but appearing basifixed, dithecal, ± 0.5 mm long, white; pollen absent; **pistil** 1; ovary superior, conspicuously 3(4)-lobed, 1 × 1 mm, pale yellowish green, minutely textured, 3(4)-chambered, each chamber with 2 ovules attached to center; **nectary** nectar-producing along septa at base, producing copious nectar; styles 3, in central, fleshy wedge-shaped papillate on top, 0.3–0.35 × 0.3–0.35 mm, colorless. **Fruit:** from cultivated specimens, utriclelike (“loculicidal capsule”), strongly 3(4)-lobed with inflated lobes, papery, 1–3-seeded having 0–2 seeds per chamber, on some fruits rupturing irregularly or also along midline due to seed enlargement and at maturity naked seeds conspicuous, when seed-bearing ca. 8 × 8.5–10 mm, when immature with many tiny red spots aging light brown, depressed at top and bottom (notched), wall with hardened individual cells (sclereids); perianth of 6(8) tepals appressed to underside of fruit; pedicel attached curved, abscissing from swollen (jointed) abscission zone ca. 2 mm from base, upper pedicel 3-ridged. **Seed:** subspheroid, 3.5–4.5 × 3.5–4 mm, initially green drying brown, having on 1 side a crestlike ridge top-to-bottom, lacking surface texture.

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