

Vascular Plants of Williamson County

Commelina erecta – ERECT DAYFLOWER, WHITEMOUTH DAYFLOWER [Commelinaceae]

Commelina erecta L. (includes all recognized varieties), ERECT DAYFLOWER, WHITEMOUTH DAYFLOWER (SLENDER DAYFLOWER). Perennial herb, not rosetted, fibrous-rooted at bases of principal shoots, several–many-stemmed at base, forming new shoots at successive nodes, decumbent with branches jointed at nodes (geniculate), in range to 65 cm tall; shoots with smaller, short-lived basal leaves and larger cauline leaves, foliage glabrous to short-hairy, axes often bent at nodes (geniculate); adventitious roots at the lowermost nodes, thick and somewhat fleshy, 2–4 mm diameter, mostly < 60 mm long, brown.

Stems: low-ridged, with internode flattened to somewhat concave on 1 side, with smooth, pulvinuslike swelling at node to 5 × 4.7 mm diameter, internode to 105 mm long (facing new branch and prophyll), glabrous; mucilaginous when cut. **Leaves:** alternate not strictly distichous or helically positioned, simple with sheath; prophyll (easy to observe) closed above midpoint to nearly to top with notch to 1.5 mm long, low 2-keeled and ± flat on side of keels, membranous, 10–20 × 2–4 × 2–3 mm, with 2 principal veins and to 6 from base convergent at tip, glabrous, on older stems often splitting downward and sometimes keel aging purplish; sheath closed but often splitting to base (by emergence of a new branch or inflorescence), 5–20 mm long, to 11-veined with raised green veins, tissue green or mottled red-purple, glabrous to short-hairy, with conspicuous lobes (auricles) at top clasping stem, auricles rounded, to 2.5 mm wide, glabrous or ciliate on margin; blade acute-lanceolate or broadly lanceolate to ovate or elliptic, in range < 28–140 × 3–43 mm, tapered to broadly tapered at base, minutely papillate and wavy on margins, acute to acuminate-acute at tip, parallel-veined with midrib sunken on upper surface and raised on lower surface, upper surface bright to dull green with fewer stomates than paler lower surface; surfaces glabrous or with soft, shaggy short hairs. **Inflorescence:** cyme, to 5-flowered, stacked and originally coiled under at top of principal shoots with the oldest ascending from the top of rachis and flowers uncoiling sequentially on different days, unit appearing terminal paired with an emerging new shoot at the node, flower buds hidden within a conspicuous, green, leaflike bract (spathe) strongly folded and vertically oriented, flowers larger on individuals with wide leaves (var. *erecta*) to the smallest on individuals with narrow leaves (var. *angustifolia*), each exerted sequentially from upper margins of spathe then withdrawn so developing fruit hidden within spathe; peduncle subtending spathe stemlike and hemicylindric, to 8 mm long, glabrous to puberulent; spathe strongly folded along midline and fused along basal margins forming a flattened pocket half heart-shaped curved on free upper margins (split open = symmetric heart; somewhat falcate), folded 11–35 × 7–21 mm (varieties with different sizes), initially containing mucilaginous liquid bathing flower buds, surfaces with curving parallel-veins, the veins not raised, exposed surfaces glabrous to short-hairy or with some longer hairs (scabrous), inner surface glossy green and glabrous; next to upper (inner) surface of spathe having a membranous semicircular bract subtending rachis, 1–3.5 mm long; rachis included within spathe, columnar becoming wider to top, 4–10 mm long, whitish, with a fingerlike gland at base ca. 1 mm long, rachis concealed by a 2-keeled prophyll; bractlet subtending pedicel, membranous, deltate or unequally 2-lobed, 1–2 mm long; pedicel ± cylindrical somewhat flattened on upper side, 4–8 × 1.3 mm, greenish white, strongly coiled in bud straightening at anthesis then S-shaped in fruit, glabrous. **Flower:** bisexual, bilateral, 15–45 mm

across; **sepals** 3 in whorl, dimorphic, widely spreading, essentially membranous and colorless with 3 faint green parallel veins and wide, clear margins, upper sepal < lower sepals, ovate, 3–4.5 mm long, lower sepals free, broadly ovate to broadly obovate and somewhat cupped upward, to 7.5 × 6 mm; **petals** 3 in 1 whorl, strongly dimorphic, widely spreading, clawed, limbs thin and easily shriveled (deliquescent), upper petals >> lower petal, upper petal claw somewhat fleshy and channeled, ca. 3 × 1.3 mm, translucent and upper portion pale bluish, limb roundish, 10–25 × 12–22 mm, uniformly blue lacking veins and nectar guides, lower petal with white claw and acuminate limb 3–6.5 × 0.7–1.3 mm (claw not sharply delimited); **stamens** 3 fertile on lower side and 3 staminodes (antherodes) on upper side; fertile stamens dimorphic, filaments flattened and also coiled about 180° above midpoint, exerted, to 18 × 0.5–0.6 mm, white at base to light yellow or pale purple above midpoint, anthers ± basifixed, dithecal, bright yellow, of 2 stamens arrow-shaped with sacs partially separated (gapping), 2.5–3.2 × 1.2–1.6 mm, of 1 stamen coiled inversely ear-shaped, 3.5–4 × 3 mm having open, flared tails; pollen light yellow; staminode monomorphic, filaments cylindric, ca. 8 × 0.25 mm, white to midpoint and light yellow above midpoint, anther portion (antherode) butterfly-shaped usually with 4–6 lobes, ca. 2.5–3 mm across, bright yellow, the lobes = open pollen sacs and obovate to oblong; **pistil** 1; ovary superior, 3-lobed (upper lobe often larger), ca. 1.5 × 1.2 mm, green, glabrous, 3-chambered, each chamber with 1 ovule; style cylindric strongly curved above midpoint, to 18 mm long, white at base to pale pinkish at midpoint and pale purple approaching tip; stigma terminal, 3-lobed, 0.25 mm across, light purple. **Fruit:** capsule, dehiscent on only 1 side, loculicidal, 2(–3-valved), 1–3-seeded, obovoid (1–)3-lobed (bulging seeds), 3–4 × 5–6 mm, initially white aging tan and brown, larger lobes smooth and the smaller lobe warty with minute low, parallel ridges; subtended by small sepal. **Seed:** tightly within lobe wall, spheric to oval and compressed side-to-side, 3–4 × 1.5–3.5 × 2.5 mm, white aging brown, ± smooth.

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