

## Vascular Plants of Williamson County

### *Asparagus officinalis* – COMMON ASPARAGUS [Asparagaceae]

*Asparagus officinalis* L., COMMON ASPARAGUS. Perennial herb, rhizomatous with fibrous rhizome branches, fibrous-rooted, not rosetted, several-stemmed from rhizome having each shoot erect and unbranched at ground level later elongating and erect to ascending, each upright shoot with many flexible, spreading to ascending, helically alternate primary branches, to 60 cm long, each primary branch with to 20 spreading to ascending, feathery secondary branchlets, secondary branchlets to 22 cm long bearing “foliage,” in range from rhizome to 130 cm tall; dioecious; shoots having inconspicuous cauline leaves and slender, cylindrical, photosynthetic stems resembling foliage leaves (cladodes, phylloclades), each shoot 3-dimensional (orthotropic) having helically alternate primary and secondary axes, along secondary branchlets with helically alternate nodes each having an unexpanded axillary shoot = a cluster of (1–)2–5(–9) radiating cladodes. **Stems:** main axes cylindrical, to 10 mm diameter at ground level gradually decreasing upward, green, glabrous, lower axis tough and aging “woody” and upper branches and branchlets thinner and flexible, axis of secondary branchlet with weak ridge descending from leaf, nodes spaced mostly 4–10 mm apart; cladode spreading to ascending, cylindrical, 4–25 × 0.25–0.3 mm, the longest > axis internode, green, short-acute at tip, venation obscure, glabrous with many stomates. **Leaves:** helically alternate, simple and partially sheathing each node; blade scalelike, triangular (the largest leaves) to ovate with acute to acuminate tip, the largest (lower cauline leaves on main axis) to 11 × 10 mm decreasing incrementally upward along principal axis to primary branch axes and secondary branch axes, lacking spiny spurs at base, entire, parallel-veined, the largest cauline leaves with a well developed axillary bud, of secondary branches (subtending cladodes) mostly < 2 mm long, green with colorless margins becoming papery. **Inflorescence:** flowers in sessile, 1–2-flowered cymes spaced apart by stem internode, axillary appearing lateral to leaf and fascicle of cladodes but at flowering before growth of vegetative shoot with cladodes, bracteate, glabrous; bract subtending pair of flowers and unexpanded shoot, acuminate-ovate in outline to shield-shaped, 2.5–3.5 × 1.5–2 mm, papery; bractlet subtending pedicel concealed by bract, oblanceolate, ca. 1 × 0.3 mm, papery and fragile; pedicel at anthesis 7–10 mm long (pistillate) and to 12 mm long (staminate), hemicylindrical and often purple-red at base, jointed bulge around abscission zone at anthesis 1.8–2.8 mm (pistillate) and near midpoint (staminate), upper portion thicker. **Staminate flower:** radial, ca. 5 mm across; **tepals** 6 in 2 whorls fused at base, glabrous; tube cup-shaped, ca. 0.5 mm long, green, thickened below each tepal; tepals ± monomorphic, in range oblong and 4.5–5 × 0.9–1.3 mm (outer tepals) and obovate and 4.5–5 × 1.7–1.9 mm (inner tepals), mostly green with whitish margins and tip, rounded at tip; **nectaries** adjacent to lower stamen filaments, green, nectar copious; **stamens** 6, fused near base of each tepal lobe; filaments lower portion decurrent, 0.6–1 mm long, free portion 0.5–1 mm long, light green, glabrous; anthers dorsifixed, dithecal, 1.3–1.5 mm long, light orange with whitish point at top, longitudinally dehiscent; pollen light orange; **pistil** = pistillode, broadly obovate 3-lobed, ca. 1 × 0.8 mm, green; style absent. **Pistillate flower:** radial, ca. 1.5 mm across, bell-shaped ca 4 mm long; **tepals** 6 in 2 whorls fused at base, 3–4 mm long, glabrous; tube cup-shaped, ca. 0.5 mm long, green, thickened below each tepal = **nectaries**, nectar copious; tepals ±

monomorphic, outer tepals elliptic,  $2.9\text{--}3.2 \times 1\text{--}1.6$  mm, 1-veined, light green with white margins and tip, obtuse to subtruncate and minutely papillate at tip, green tissue aging yellow on outer (lower) surface, inner tepals broadly oblong-elliptic to obovate or somewhat fan-shaped,  $3.1\text{--}3.5 \times 1.6\text{--}2.2$  mm, 1-veined, light green with wider white margins and tip; **stamens** = 6 staminodes (sterile), fused near base of each tepal lobe; filaments ca. 0.5 mm long (attached to outer tepals) and ca. 1 mm long (attached to inner tepals); anthers diminutive, dorsifixed, flat arrow-shaped, 0.5 mm long (outer tepals) and ca. 0.8 mm long (inner tepals); pollen absent; **pistil** 1, 2.5–2.9 mm long, short-stalked; ovary superior, obovoid low 3-lobed, ca.  $1.3 \times 1.3$  mm, light green, with 3 fine furrows at septa, 3-chambered, each chamber with 2 greenish ovules; style 3-branched, lower portion erect and 3-sided peglike, ca.  $0.5 \times 0.3$  mm, stigmatic branches spreading, 0.25 mm long, translucent. **Fruit:** berry, in range 1–3-seeded, spheric, in range  $4\text{--}5 \times 4.5\text{--}6$  mm, scarlet to orange-red, with beak (persistent style) 3-sided pyramidal, < 1 mm long, greenish; exocarp nearly colorless (faintly reddish); pulp (mesocarp) juicy, red to orange-red. **Seed:** subspheroid,  $\pm 2 \times 2.8\text{--}3.2 \times 2$  mm, black minutely textured (convex cells), partially coated with adherent papery layer; hilum circular, ca. 0.3 mm across, orangish.

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