

Rumex salicifolius Weinm., WILLOW DOCK, WILLOW-LEAVED DOCK. Perennial herb, taprooted and fibrous-rooted, several–many-stemmed from base, not rosetted, eventually forming branches at most nodes on principal branches, initiating lateral branches from terminal inflorescence downward, principal branches ascending, 30–100 cm tall; polygamomonoecious; shoots with only cauline leaves, glabrous; adventitious roots sometimes at node on buried basal stems. **Stems:** low-ridged aging smooth and cylindrical, to 9 mm diameter, tough, somewhat zigzagged to \pm straight and with axillary shoots diverging ascending, not noticeably swollen at nodes, internodes to 140 mm long; solid, pith ca. 2 mm diameter. **Leaves:** helically alternate, simple, petiolate, with stipules; stipules (2) fused to form a sheath (ocrea) above node and fused to upper side of petiole, membranous, 7–40+ mm long, with < 15 parallel veins, initially light green or transparent-membranous soon drying pale brown and smooth between reddish veins, very fragile and fracturing irregularly with some fractured parts adhering to stem or petiole; petiole hemicylindrical but broadly U-shaped at pale green base (where attached to ocrea), < 10 –175 mm long, thick, \pm fleshy, flexible, green, sometimes with minute teeth on margins, lower side low-ridged and upper side 3-veined; blade lanceolate to narrowly elliptic, 55–175 \times 12–40 mm, tapered at base, entire (minutely roughened) and sometimes somewhat wavy on margins near base, acute to acuminate at tip, pinnately veined with midrib raised on both surfaces, upper surface with midrib often 3-veined below midblade, lower surface midrib ridged (large leaves). **Inflorescence:** panicle, terminal, erect to ascending, of stalked flowers in dense whorl-like clusters of 10+ per node (condensed cymes), terminating shoots of the canopy (absent on lower plant), the nodes helically alternate, the lateral branches racemelike, ascending, and mostly < 40 mm long, the terminal axis unbranched to 60 mm long, congested but at anthesis axes interrupted and later appearing slightly interrupted where internodes longer, bracteate, glabrous; bract subtending branch leaflike, linear to lanceolate-linear and with a reduced ocrea, to 70 mm long, reduced above and eventually with only a short ocrea, the ocrea drying brown and fracturing; axis ridged; pedicle arching, 1.5–3 mm long, with abscission zone ca. 0.5–0.7 mm (= persistent base). **Flowers:** bisexual and pistillate (also possibly with staminate flowers), radial, 1 mm across (pistillate flower) and ca. 1.5 mm across (bisexual flower), protandrous when bisexual; **perianth** 6-lobed, lobes (sepals and petals) in 2 distinct whorls; tube (receptacle) inversely conic, 0.3–0.5 mm long, green; outer lobes (sepals) ascending, cupped, oblong to narrowly ovate, at anthesis 0.7–1.3 mm long, (short ones = pistillate flowers), green with narrow membranous margins to tip; inner whorl of lobes (petals) at anthesis triangular, 1.2–2.3 mm long, green with narrow colorless margins above midpoint, entire, obtuse to acute at tip, pinnately veined with raised midvein becoming enlarged on outfacing lobe forming a callosity on basal 1/2 in fruit; **stamens** 6 in 2 whorls (absent or diminutive in pistillate flowers), free, arising from the rim of perianth tube; filaments ± 0.4 mm long, colorless, flaring at base, soon abscising; anthers basifixed, dithecal, 0.9–1.1 mm long, pale light yellow aging orangish red, longitudinally dehiscent; pollen light yellow; **pistil** 1; ovary superior, strongly 3-angled ovoid to broadly ellipsoid, 0.4–0.5 mm long and wide, glossy pale green, 1-chambered with 1 ovule; styles 3, slightly deflexed and projecting between and sometimes spreading petals, 0.45–0.65 mm long, pale green at base to whitish at tip, flared at tip into ca. 10, short, tentaclelike stigmatic branches. **Fruit:** achene enclosed within brown perianth (diclesium) and having a persistent pedicel; sepals dry,

persistent, similar in size and shape as when in flower; petals in fruit triangular, 1.2–2.4 mm long, each with pinnate venation and a raised midvein but 1 petal having a midvein tubercle and conspicuously larger than the others, inner lobe entire or with several inconspicuous teeth on each margin below midpoint, the tubercle ellipsoid, ca. 2×0.7 mm, whitish drying brown like perianth and somewhat warty; achene 3-angled ovoid, $1.8\text{--}2 \times 1.1\text{--}1.3$ mm, glossy reddish brown, with styles \pm persistent, ca. 1 mm long and deflexed; pedicel (abscised from persistent base) curved, to 3 mm long. Mid-May–early October.

Native. Perennial herb occurring in moist situations, e.g., on banks of creeks or in wet drainages growing in full sun. *Rumex salicifolius*, like *R. californicus*, has willow-shaped leaves, which are dotted on both surfaces with stomates. Pistillate and bisexual flowers are mixed at each node; the pistillate ones are smaller, the stigmas often are extended through the perianth lobes, and stamens are absent or may be diminutive and produce sterile anthers. In fruit the outward-facing inner perianth lobe possesses a large tubercle, initially white but drying reddish and somewhat warty.

Plants in range of the *Rumex salicifolia* complex need to be studied in greater depth, to determine whether other species should be recognized here and described, e.g., *R. crassus* Rech. f.

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