

Atriplex L. SALT BUSH

Atriplex watsonii Abrams, WATSON'S ORACH. Perennial herb, halophytic, several-stemmed at base, prostrate to decumbent and trailing or loosely matlike, typically < 50 cm tall, to 300 cm across; dioecious; shoots with only cauline leaves, having short axillary shoots, silvery white, densely covered with 2–3 layers of tightly packed, salt-accumulating, balloonlike hairs (vesicular hairs) collapsed when dry thereby making surfaces reflective. **Stems:** cylindric, ca. 5 mm diameter at base, internodes on principal stems to 75 mm long, mostly tannish but young stems often purplish red or tinged rose, with collapsed vesicular hairs. **Leaves:** opposite decussate, simple, sessile to short-petiolate, without stipules; petiole 0–1 mm long; blade ovate, in range 3.9–18.2 × 1.8–11 mm, rounded to broadly tapered at base, entire, acute at tip, obscurely pinnately veined usually with only midrib visible, or lateral veins becoming apparent as leaf senesces, initially fleshy from vesicular hairs. **Inflorescences:** dense unisexual clusters of cymes (glomes), axillary, bracteate, with vesicular hairs. **Staminate inflorescence:** glome hemispheric, of 5–25 sessile flowers, glomes arranged in spikelike arrays; peduncle 3–32 mm long; spikelike axis 6–70 mm long, the staminate glomes spaced along lower part and congested near tip, with 4–8 opposite glomes (= 2–4 verticillasters) or to 15 alternate glomes; bract subtending each basal glome leaflike, ca. 11 × 8 mm, decreasing upward and becoming lanceolate or awl-shaped reduced to ca. 2 × 0.8 mm (upper glomes). **Staminate flower:** radial, at anthesis 1.3–1.6 mm across; **perianth (calyx)** 4-lobed, fused at base; lobes subequal, broadly ovate to semicircular, 0.6–1.1 × 0.6–1 mm, greenish along center and whitish and narrowly membranous on margins; **stamens** 4, opposite calyx lobes, fused at base and sometimes forming a short tube; filaments 0.4–1.2 mm long, light green to whitish; anthers exserted, dorsifixed, dithecal, 0.3–0.5 × 0.4–0.5 mm, light to vivid yellow or dark pinkish, the sacs joined by connective at tip, longitudinally dehiscent; pollen light yellow; **pistil** absent. **Pistillate inflorescence:** at nodes approaching tips of shoots, cyme of 1–3 flowers, axillary to a leaflike bract; bracteoles 2 enclosing pistillate flower. **Pistillate flower:** **perianth** absent; **stamens** absent; **pistil** 1, 1.6–4.6 mm long; ovary superior, hemispheric to lenticular compressed side-to-side, 0.6–0.8 mm long, green, 1-chambered with 1 ovule attached at base, the ovule vertical; style 0.9–3.9 mm long, pale green but darker green at base, 2-branched, nearly free to forked above 1.5 mm, the branches stigmatic 0.6–1 mm at tips. **Fruit:** utricle, vertical, enclosed by 2 sessile bracteoles fused 2/3–3/4 length; utricle becoming thin, membranous, and adherent to seed; bracteole rhombic-ovate or 5-sided, 4.4–8.5 × 3.5–6 mm, broadly tapered at base, toothed on margins with short, blunt teeth, mostly acute or sometimes acuminate at tip, outer surfaces unadorned but uneven with densely packed vesicular hairs, becoming swollen and woody at base. **Seed:** vertical, ± discoid, 1.4–1.9 mm diameter, 0.6–0.8 mm thick, shiny dark brown, with tip of radicle at top. Late March–mid-September.

Native. A halophytic perennial inhabiting the higher patches and dry margins of salt marsh at Point Mugu, growing with *Cressa truxillensis*, *Limonium californicum*, *Frankenia grandifolia*, and *Distichlis littoralis*. *Atriplex watsonii* is a low-growing plant with long arching to trailing shoots, one of the few species of *Atriplex* with fully opposite

leaves, and it is also dioecious. Observations of the Point Mugu population revealed that staminate flowers are four-merous, whereas they have been reported to be five-merous.
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