

Nicotiana quadrivalvis Pursh, BIGELOW'S TOBACCO, KAROK TOBACCO. Annual, taprooted, rosetted, several–many-stemmed at base, with ascending major branches, erect, in range 50–125 cm tall; shoots with basal leaves and cauline leaves, densely glandular-hairy on all surfaces but not viscid, some hairs stalked with yellow-green to colorless, fusiform or ovoid heads, other hairs blisterlike, ill-smelling. **Stems:** ± cylindric or inconspicuously ridged, the glandular hairs erect, 0.5–1 mm long. **Leaves:** helically alternate, simple, sessile, without stipules; blade narrowly ovate to lanceolate, 70–180 × 40–70 mm decreasing upward to 60 × 10 mm and grading into bracts, typically broadly tapered to rounded at base (occasionally with earlike lobes) at base, entire, acuminate at tip, pinnately veined with principal veins raised on lower surface, dull. **Inflorescence:** panicle of racemelike branches, terminal, open, many-flowered, bracteate, conspicuously glandular-pubescent; bract subtending lateral branch leaflike; bracts along inflorescence axes leaflike, linear-lanceolate to linear, to 60 × 8 mm, decreasing upward and becoming linear and sessile; bractlet subtending pedicel absent; pedicel cylindric, 3.5–5 mm long increasing 2× in fruit. **Flower:** bisexual, radial, in range 20–32(–40) mm across, opening around dusk (vespertine); **calyx** 5-lobed, ± ellipsoid, 10–13(–20) × 4.5–5.5 mm, same length in fruit but typically split by expanded ovary, green, glandular-hairy but not viscid, hair often with a large basal cell; tube 7.5–9 mm long, 10-ridged and somewhat pleated, not striped, lacking membranes between lobes; lobes appressed to spreading or recurved, somewhat unequal, narrowly triangular (linear-lanceolate), 3–4.5 mm long, the longest = tube length, green; **corolla** 5-lobed, trumpet-shaped (salverform), externally glandular-pubescent with capitate hairs base-to-tip, in bud lobes somewhat twisted; tube cylindric, in range 25–35(–50) mm long, ca. 1.8 mm diameter at base and 3 mm diameter at orifice, greenish white, faintly 15-veined; limb pleated, 10–15 mm long, lobes broad and short, obtuse, ≥ 1/2 length of limb × 6–8 mm wide, white, 3-veined at base, with conspicuous dark green midvein on back and visible but fainter on upper surface, secondary veins light green on lower surface and very faint on upper surface; **stamens** 5, fused to corolla unequally at different levels within 10 mm of orifice, 4 long and slightly exerted + 1 short and included; filaments straight, slender-cylindric, 4–7.5 mm long, whitish, glabrous; anthers basifixed (appearing dorsifixed), dithecal, 1.6–2.2 × 1.4–1.7 mm, greenish aging brownish, longitudinally dehiscent; pollen whitish; **nectary disc** surrounding base of ovary, ringlike, 0.5–0.6 mm long, yellowish green; **pistil** 1; ovary superior, narrowly conic, 3–3.5 × 2 mm, green, glabrous, 2-chambered, each chamber with many ovules attached to center; style barely exerted and terminating 1 mm below to even with anthers, cylindric, to 33 × 0.3–0.5 mm, pale green, glabrous; stigma 2-lobed, ca. 1.3 mm broad, green. **Fruit:** capsule, dehiscent by 4 lanceolate or ovate, terminal valves, many-seeded, ovoid, 13–15 × 6.5–7 mm long, brown. **Seed:** ± wedge-shaped, 0.8–0.9 mm long, frosted brown, hard, the surface with network of sinusoidal ridges. Late May–early July.

Quasi-native. Annual tobacco native to western North America but formerly cultivated for smoking by Native Americans, hence its current range is not totally natural. This species is infrequently encountered in highly disturbed grasslands and catchment basins of SMM and SH. Tall plants of *Nicotiana quadrivalvis* somewhat resemble *N. acuminata* var. *multiflora* but can be distinguished easily without a hand lens because *N. quadrivalvis* is

much-branched at the base and never oily-viscid, and there are distinguishing features of the calyx and stamens that can be seen with a hand lens.

B. A. Prigge & A. C. Gibson