

Physalis philadelphica Lam., TOMATILLO, TOMATE. Annual, taprooted, 1(-many)-stemmed at base, repeated forked, branches decumbent to ascending, with hemispheric canopy, to 60 cm tall, to 150 cm across; shoots leafy, with unequal axes at each node, glabrate or aging glabrescent, on young growth puberulent with erect to appressed, short nonglandular hairs + longer glandular hairs (to 0.8 mm long) having small, colorless heads, lightly scented, not sticky. **Stems:** several-ridged, to 20 mm diameter, usually with 3 conspicuous ridges descending from each fork, green even on old stems, with short hairs along ridges. **Leaves:** helically alternate, simple, petiolate, without stipules; petiole channeled with 2 prominent ridges, to 125 mm long, puberulent; blade ovate, 40–135 × 20–100 mm, rounded to broadly tapered and commonly oblique at base, conspicuously dentate to serrate-dentate and wavelike on margins, acute to acuminate at tip, pinnately veined with principal veins somewhat sunken on upper surface and raised on lower surface, mostly glabrescent except minutely ciliate on margins and with scattered hairs along veins. **Inflorescence:** leafy cyme with solitary flower appearing axillary at each fork (alternatively interpreted as solitary axillary flowers), flower nodding, lacking bracts; axes stemlike, sparsely puberulent and initially with stalked glandular hairs; pedicel descending, slender, at anthesis 4–10 mm long, dark purple, puberulent to glabrous. **Flower:** bisexual, radial, 22–30 mm across; **calyx** 5–6-lobed, 6–7.5 mm long, 14–15 mm across becoming expanded in fruit; tube broadly bell-shaped, purple at base and indented to mostly green above, 10–12-veined with a principal vein from base to each lobe tip and partially toward each sinus, veins to sinuses dark green to dark violet to midpoint, glandular-strigose along veins but otherwise glabrous or with scattered hairs, internally glabrous; lobes triangular, 4.3–5 × 4–5 mm (if 6-lobed, 1 lobe ca. 2.5 × 2 mm), veins to tips dark green to dark violet most of length; **corolla** 5–6-lobed, initially broadly bell-shaped becoming spreading, cymbal-shaped (rotate) and star-shaped, overall yellow with a large spot on tube and throat opposite each lobe, limb often wavy; tube cup-shaped, 5–6 mm long, ca. 9 mm wide at orifice, the spots oblong to square or pentagonal, 4–5 × 3.5–5 mm, dark violet to greenish violet, pubescent with unbranched hairs below midpoint to villous with branched hairs (dendritic); throat broadly flaring, forming limb with broad teeth and convex between teeth, densely short-ciliate, the teeth 2–2.5 × 3.5–5 mm; **stamens** 5–6, fused ± 1 mm above base of corolla, alternate with corolla lobes; filaments erect, ± cylindric, 4.8–6 × 0.9–1.2 mm, often slightly thinner at base, dark violet, glabrous; anthers basifixed, dithecal, arrow-shaped or ovately so, 3.4–5.3 × 1.5–2.8 mm, violet but narrowly pale yellow on dehiscing margins and light yellow or tannish on connective side of each anther sac and connective, longitudinally dehiscent but curling inward at tip (twisting); pollen pale yellow; **nectary** beneath each corolla spot and alternate with stamens, surrounded by dendritic hairs; **pistil** 1, 10–11 mm long; ovary superior, conic top-shaped, 2.3–2.5 × 2.3–2.7 mm, light green, slightly 5–6-angled, 2-chambered with many ovules attached to center; style narrowly club-shaped, ca. 7 mm long, greenish but dark purplish or violet at base, slightly angled, glabrous; stigma exerted, terminal, 0.3–1 × 0.8–1.1 mm. **Fruit:** berry, fleshy, enveloped by expanded calyx tube; berry many-seeded, spheroid or ovoid to depressed-ovoid or flattened subspheroid (oblate), 12–65 × 15–85 mm, sometimes slightly 4-lobed, green or purple to reddish purple (yellow or red), ± viscid with minute glandular hairs or becoming nearly glabrescent; wall firm, 2–7.5 mm

thick, pulp light green to whitish, with bladderlike cells (not juicy); calyx $2/3-2\times$ fruit length, when $>$ fruit loose around fruit, when $<$ fruit conforming to fruit shape and generally tightly appressed (rupturing), green or with purplish veins but drying papery and light tan, 10–12-ribbed with raised, netlike veins between ribs. **Seed:** roundish to ovate or kidney-shaped compressed side-to-side, $2.3-2.7 \times 1.7-2.2$ mm, yellowish tan to tan, minutely bumpy. Early August–early October.

Waif. Annual collected several times in range (since 2000), including in Chatsworth Park South where picnicking occurs (SH). *Physalis philadelphica* is the cultivated tomatillo, mostly a green fruit loaded with seeds used commonly in fresh Hispanic salsas, but in range this species has to date not been collected in fruit, hence there is no indication that it has ever reseeded locally. There is only one nodding flower produced at each fork in the canopy, and the rotate corolla very much resembles *Solanum*, which can also have large spots but has yellow anthers. The violet anthers of *P. philadelphica* dehisce longitudinally and then become curled or twisted.

B. A. Prigge & A. C. Gibson