

*Piperia* Rydb. REIN ORCHID

*Piperia elongata* Rydb., DENSE-FLOWERED REIN ORCHID, CHAPARRAL ORCHID, WOOD REIN ORCHID. Perennial herb, geophytic with cormlike caudex, rosetted, 1-stemmed at base, scapose, unbranched, erect, in range (30–)40–60 cm tall; shoot with 3–4 basal or lower cauline leaves and several widely spaced bracts on lower peduncle grading upward to bractlets, glabrous; caudex  $\pm$  spheroidal. **Stems** (+ lower peduncle): cylindrical, to 4 mm diameter, straight, green, lacking stomates. **Leaves:** alternate distichous, simple with sheath; blade elliptic, 20–130(–160)  $\times$  5–50 mm, folded upward along midvein, entire, obtuse at tip, parallel-veined. **Inflorescence:** spike, terminal, 100–320 mm long, dense with 60+ helically alternate, sessile flowers, bracteate, flowers remaining open many days after anthesis; peduncle-axis stemlike, cylindrical, glabrous, with epidermal cells short and  $\pm$  bladderlike in vertical rows; bracts along peduncle lanceolate, to 20  $\times$  9 mm decreasing upward to 6  $\times$  2 mm, ascending or suberect at base; bractlet subtending flower 1 (lacking inner bractlet), green, acuminate-lanceolate, 4–5  $\times$  1–1.5 mm increasing to 7  $\times$  2 mm in fruit, cupping base of ovary and fruit, persistent; pedicel 0–0.5 mm long and in fruit 0–1 mm long, whitish. **Flower:** bisexual, bilateral, 3–3.5 mm across and 4.5–5.5 mm tall, spurred, with ovary twisted 180° (resupinate) so upper petal (lip) appears to be the lowest perianth segment; lightly scented like honey; **sepals** 3,  $\pm$  free, arising from short tube above ovary,  $\pm$  equal, 2.7–3  $\times$  1.3–1.5 mm, green and narrowly colorless on margins, 1-veined; upper sepal pointed forward, elliptic, flat to  $\pm$  inrolled; lateral 2 sepals reflexed, ovate, without colorless spots (raphides), upper surface with bladderlike cells (vesicular); **petals** 3, dimorphic; upper 2 petals ascending, triangular-lanceolate, 2.5–3  $\times$  1.4–1.5 mm; lip (labellum = 3rd petal) descending, fused at base to lateral sepals, triangular, 2.5–3  $\times$  1.7–2 mm, with thickish midvein, spurred, the spur curved downward, in range to 11 mm long, not compressed, narrowly bulbous and greenish at end, internally nectar-producing; **stamen** 1, fused into column with style and stigma, visible at throat, = 2 anther sacs (dithecal), each sac 1  $\times$  0.5 mm, lower 2/3 white, orangey brown at tip or uniformly white; pollinia (pollen in solid mass) 2 with 1 per sac, cream-colored to light yellow,  $\pm$  1 mm long, with numerous sausage-shaped pollen clusters (massulae) connected by fine elastic threads into a narrow, grapelike cluster (sectile), each pollinium joined to 1 viscidium (sticky attachment to insect, 2 viscidia per flower) by a short stalk (caudicle), viscidium shallow cup-shaped, ca. 0.3 mm diameter, semi-transparent pale yellow; **pistil** 1, < 6 mm long; ovary inferior, twisted and curved 180°, narrowly oblong or oblanceoloid, 2.5–4 mm long, green, strongly 3-ridged, 1-chambered with great numbers of ovules attached to walls; style = part of column fused with stamen; stigma obscurely 3-lobed, positioned below anther. **Fruit:** capsule, dehiscent by longitudinal slits, many-seeded, ovoid, 4–11  $\times$  3 mm, twisted, 3-ribbed. **Seed:** light-weight,  $\pm$  lanceoloid, 0.25–0.35 mm long, pale brown to cinnamon brown on truncate end and colorless on other half, with winglike longitudinal ribs. Mid-June–mid-July.

Native. Geophytic perennial herb discovered by Tony Valois in 2005 growing at SMMNRA Circle X Ranch in a similar chaparral habitat as the more common rein orchid but flowering instead in early summer. *Piperia elongata* overall resembles *P.*

*unalascensis*, but this orchid has leaf blades obtuse at tip and the perianth spur is about twice as long.

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