

*Piperia* Rydb. REIN ORCHID

*Piperia unalascensis* (Spreng.) Rydb., ALASKAN REIN ORCHID. Perennial herb, geophytic with cormlike caudex, rosetted, 1-stemmed at base, unbranched, erect, (30–)40–85+ cm tall; shoot with 3–4 basal and lower cauline leaves, the lowest one subterranean and sheathlike (papery at flowering), glabrous; caudex ± spheroid. **Stems:** cylindric, to 4 mm diameter, straight, green, glabrous, lacking stomates. **Leaves:** alternate distichous, simple with sheath; sheath closed, membranous, closed portion to 45 mm long; blade oblanceolate, 25–160+ × 5–25(–40) mm, folded upward along midrib, entire, acuminate at tip, parallel-veined. **Inflorescence:** spike, terminal, portion with flowers 100–350 mm long, with 40+ helically alternate, sessile flowers, bracteate, glabrous, flowers remaining open many days after anthesis; peduncle-rachis stemlike, cylindric, glistening with epidermal cells short and ± bladderlike (in vertical rows), bracts along peduncle leaflike; bractlets subtending flower 2, acuminate-lanceolate, outer bractlet 6.5–10 × 1.5–3 mm, cupping base of ovary and fruit, inner bractlet shorter, green, persistent; pedicel in fruit < 0.5 mm long, whitish. **Flower:** bisexual, bilateral, 4 mm across, spurred, with ovary twisted 180° (resupinate) so upper petal (lip) appears to be the lowest perianth segment; strongly scented like honey; **sepals** 3, ± free, arising from short tube above ovary, ± equal, 3–3.5 × 1–1.5 mm, light green, 1-veined; upper sepal pointed forward, ovate, ± inrolled (revolute); lateral 2 sepals reflexed, oblong, slightly > upper sepal, green with elliptic, colorless spots (raphides), rounded at tip, upper surface somewhat bladderlike (vesicular) and slightly colorless on margins; **petals** 3, dimorphic, light green; upper 2 petals ascending, oblong-ovate, 3 × 1–1.5 mm, inconspicuously spotted; lip (labellum = 3rd petal) descending, rounded triangular, 4 × 3 mm, flat, thickish, spurred, the spur curved backward, in range ca. 5 mm long, compressed side-to-side, rounded at tip, nectar-producing; **stamens** 1, fused into column with style and stigma, visible at throat, = 2 anther sacs (dithecal), each sac 1 × 0.7 mm, the lower 2/3 white and orangey brown at tip; pollinia (pollen in solid mass) 2 = 1 per sac, ± 1 mm long, cream-colored, with numerous sausage-shaped pollen clusters (massulae) connected by fine elastic threads into a narrow, grapelike cluster (sectile), each pollinium joined (to 1 viscidium by caudicles); viscidium shallow cup-shaped, amber-colored; **pistil** 1, < 10 mm long; ovary inferior, twisted and curved 180°, green, strongly 3-ridged, 1-chambered with a great number of ovules; style = part of column fused with stamen; stigma 3-lobed, (rostellum), positioned beneath column tip. **Fruit:** capsule, dehiscent by 3-valves, many-seeded, ascending, ellipsoid, ca. 8–10 mm long, brown, with 3 conspicuous ridges. **Seed:** light-weight, ± lanceoloid, 0.25–0.35 mm long, dark cinnamon brown on truncate end and colorless on other half, with winglike longitudinal ribs. Late March–late May.

Native. Geophytic perennial herb occasionally encountered in chaparral, typically in shade of old shrubs. *Piperia unalascensis*, also sometimes treated as a species of *Platanthera*, is always unexpected, because orchids are not typically present in dry habitats, but this species emerges from the ground during early spring, and flowers for at least a month. Each flower remains open for many days, so the entire inflorescence may appear to be in flower even though flowers open sequentially base to tip. Flowers are evenly spaced along the axis, and so our populations fit to the “montane form.” This green orchid flower has a

conspicuous nectar-producing spur and emits a sweet fragrance from the perianth. The fruits are packed with thousands of tiny seeds that can be blown easily by even a light wind.

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