

Ranunculus ponojensis (Markl.) Ericsson

Ranunculaceae

Synonyms: *Ranunculus auricomus* auct. non L. s. lat., *Ranunculus monophyllos* Osz. s. lat. pro parte

Global Distribution: Northern Russia through Russian Far East to Western Alaska.

Alaska Distribution: Bering Tundra, Bering Taiga, Intermontane Boreal.

Ecoregions Occupied: Seward Peninsula, Nulato Hills, Kobuk Ridges and Valleys.

Conservation Status: S2 GNR; BLM Watch.



Description¹⁶⁴

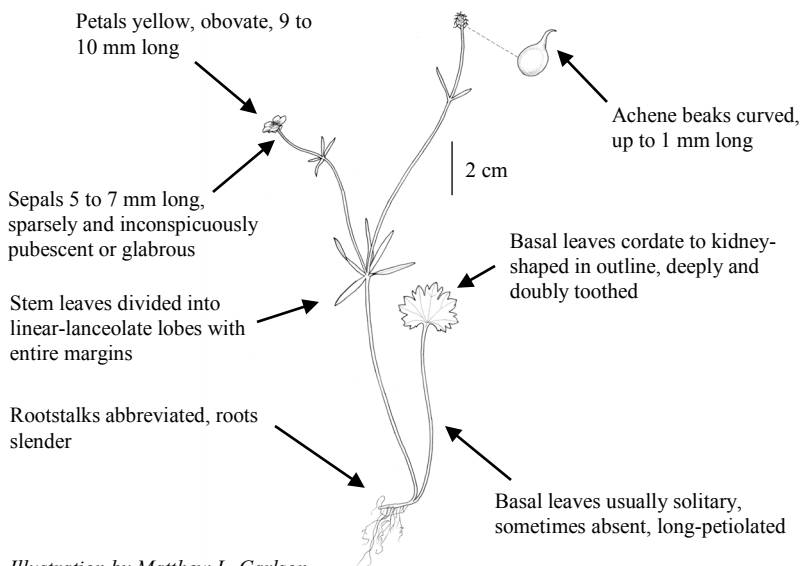


Illustration by Matthew L. Carlson

Ranunculus ponojensis

- General:** Perennial herb from an abbreviated root stalk and slender roots; stems solitary, erect or ascending, simple or with 2 to 3 branches in the upper portion, glabrous, grooved, 15 to 20 cm tall; leafless scales at base of stem 2 or more, upper scales considerably larger than lower scales.
- Leaves:** Basal leaf usually solitary, sometimes absent, long-petiolated, cordate to kidney-shaped in outline, deeply and often doubly toothed, glabrous on the lower surfaces, sparsely pubescent with appressed hairs on the veins of the upper surfaces; stem leaves sessile, divided into linear-lanceolate lobes with entire margins.
- Flowers:** Flowers usually 1 to 3, rarely 5 or 6; pedicels slightly pubescent; sepals curved, elliptic, 5 to 7 mm long, sparsely pubescent or glabrous; petals yellow, obovate, 9 to 10 mm long.
- Fruits:** Fruiting heads globose to short-cylindrical; achenes 2.5 to 3 mm long, glabrous; beaks curved, up to 1 mm long.



ALA 28223

Ecology

- Elevation:** Known from 10 to 580 m in Alaska.
- Landform:** Alpine slopes, subalpine slopes, stream banks.
- Soil Type:** Organic soil; sometimes associated with limestone substrates.
- Moisture regime:** Moist to wet.
- Slope:** Gentle to at least 30°.
- Aspect:** Often, but not limited to, south to southeast.
- Vegetation type:** Graminoid-forb meadows, willow shrub, low shrub-forb tundra, tussock tundra; often associated with moss.
- Associated species:** *Arctous alpina*, *Dasiphora fruticosa* ssp. *floribunda*, *Dryas alaskensis*, *Festuca altaica*, *Salix alaxensis*, *Salix hastata*, *Solidago multiradiata*, *Viola biflora*.
- Longevity:** Perennial, likely short-lived as plants do not form extensive caudexes.
- Phenology:** Flowering late May, probably sooner, through early July; begins fruiting early June.
- Population estimate:** There are eight known occurrences in Alaska; populations are generally small.
- Reproductive biology:** *Ranunculus ponojensis* is pseudogamous: the seeds develop apomictically (without fertilization) but require pollination to stimulate endosperm development;¹⁶⁵ likely predominantly self-pollinating.^{166, 167}

Similar Species^{24, 25, 160, 164}

Material from western Alaska corresponding to the *Ranunculus auricomus* aggregate has been referred to *Ranunculus auricomus*. However, *Ranunculus auricomus* s. lat. is Amphi-Atlantic in distribution.⁴²

Ranunculus monophyllos s. lat., which belongs within the *Ranunculus auricomus* aggregate, primarily occurs in northern Russia. The material from Alaska most likely falls within *Ranunculus ponojensis*, the most widespread agamospecies of *Ranunculus monophyllos* s. l. However, with future study, *Ranunculus ponojensis* will likely prove to consist of multiple agamospecies.⁴²

Ranunculus arcticus also occurs in Northwest Alaska and is generally similar to *Ranunculus ponojensis* apart from the morphology of the basal leaves. The differences between the basal leaves of the two species are shown in the table below.

Species	Basal Leaves
<i>Ranunculus ponojensis</i>	Usually solitary, sometimes absent; deeply and often doubly toothed
<i>Ranunculus arcticus</i>	Usually multiple; cleft nearly to the center into 5 to 9 linear or again lobed segments

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