

SPECIES EVALUATION

Ranunculus gelidus ssp. *grayi*, Priority 1. *Ranunculus gelidus* Karelín & Kirilov (RAGE). tundra buttercup, ice cold buttercup. CNHP G4G5 / S2, Track A. G4G5 N?. CO S2. GMUG-Ouray, Taylor River-Cebolla, PSICC-Leadville, ARP-Boulder, Clear Creek, WR-Aspen, Dillon

Criteria	Rank	Confidence	Rationale	Sources of Information
1 Distribution within R2	B	L	Patchy distribution; but the terminology in the ranking description does not apply, hence the low confidence. Ranked S2 in Colorado, S1 in Wyoming, and S2 in Montana. Apparently not ranked by Utah or Idaho.	Markow and Fertig 1999, MTNHP 2002, CNHP records, specimens at COLO and RM, Johnston 2001, Weber and Wittmann 2001ab, Dorn 2001, Whittemore 1997.
2 Distribution outside R2	C	H	Apparently more common in Alaska and the Yukon; also disjunct in Kazakhstan and Kyrgyzstana (ssp. <i>gelidus</i> according to Hultén).	Hultén 1968, Whittemore 1997.
3 Dispersal Capability	D	H	Dispersal mechanisms unknown.	
4 Abundance in R2	A	M	Or Rating B with Confidence L. <i>Ranunculus gelidus</i> is still rare in R2, with small populations. About seven to ten occurrences in Wyoming, fifteen to twenty in Colorado, about ten in Montana. The plants are small, and difficult to spot unless the yellow flowers are visible; few places have been deliberately searched for this species. So I expect perhaps ten to twenty more sites remain to be discovered in R2. Most of the populations seem small, ranging from 3 to 50 in the six populations counted in Colorado. On the other hand, the habitat is rocky and broken up, and difficult to inventory; many of the population counts are fast estimates, without any searches for the total extent of the population.	Markow and Fertig 1999, MTNHP 2002, CNHP records, specimens at COLO and RM, Johnston 2001, Weber and Wittmann 2001ab, Dorn 2001, Whittemore 1997, my observations.
5 Population Trend in R2	D	M	No populations re-counted or monitored, as far as I know.	
6 Habitat Trend in R2	B	M	High Alpine Zone, what Löve (1970) called the Nival Zone. In Colorado, elevations range 12,700–14,100 ft (3,870–4,300 m), and average 13,200 ft (4,020 m); in northern Wyoming, 10,000–11,000 ft (3,045–3,350 m). The populations occur on ridge tops and peaks, in rocks and scree, where there have been low-lying snow banks or in the rivulets below them. The species seems to prefer scree of igneous origin, although plants can be found sometimes on calcareous sedimentary rocks. These sites are difficult to assess, because few people visit them. Many sites are in wilderness areas; the habitats are usually away from trails, probably because late-lying snow banks are poor places to locate trails. On the other hand, that means this species has likely been under-inventoried. I estimate that most habitats have been stable for decades.	My observations.
7 Habitat Vulnerability or Modification	B	M	Or Rating C with Confidence M. These habitats would be vulnerable to trails, but these are sites where a lot of human use is not very likely, unless the site were the only way to get to some feature, such as a high peak.	My observations.
8 Life History and Demographics	D	H	Details of life history and demographics unknown.	

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National Forests in the Rocky Mountain Region where species is KNOWN (K) or LIKELY (L)* to occur:

* Likely is defined as more likely to occur than not occur on the National Forest or Grassland. This generally can be thought of as having a 50% chance or greater of appearing on NFS lands.

COLORADO NF/NG		K	L	NEBRASKA NF/NG		K	L	WYOMING NF/NG		K	L
Arapaho-Roosevelt NF		K		Samuel R. McKelvie NF				Shoshone NF	K		
White River NF		K		Halsey NF				Bighorn NF			
Routt NF				Nebraska NF				Black Hills NF			
Grand Mesa Uncompahgre Gunnison NF		K		Ogallala NG				Medicine Bow NF			
San Juan NF				SOUTH DAKOTA NF/NG				Thunder Basin NG			
Rio Grande NF				Black Hills NF				KANSAS NF/NG			
Pike-San Isabel NF		K		Buffalo Gap NG				Cimarron NG			
Comanche NG				Ft. Pierre NG							
Pawnee NG											

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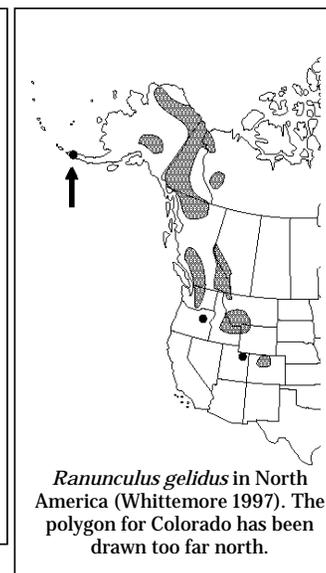
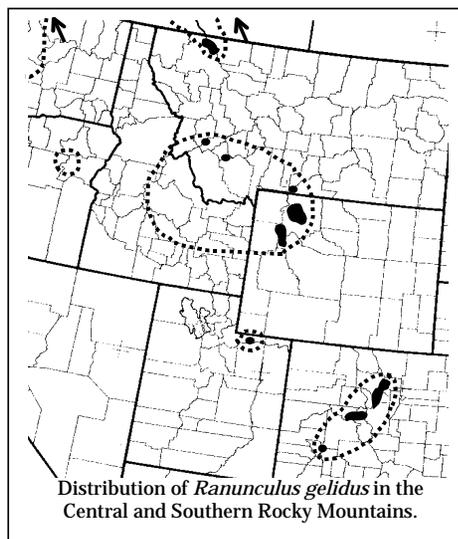
Taxonomy. Many botanists call the species *Ranunculus gelidus* Karelín and Kirilov, but some call it *Ranunculus karelinii* Cherepanov; others in the Rocky Mountains have used the name *R. verecundus* Robinson. The status of the name *grayi* is more confused. The subspecies *grayi* had been previously described (as a species) in 1829 by Hooker, based on specimens from northwestern North America, but Hooker's name was not valid. The nomenclature continued to be confused for several decades, until Britton finally supplied a valid name for it, *Ranunculus grayi*, in 1891. Later, Hultén recognized that *grayi* was really conspecific with *Ranunculus gelidus* (Hultén 1968).

A recent revision of *Ranunculus* in North America treats this as one species, *Ranunculus gelidus*, distributed in western North America and eastern Asia (Whittemore 1997). He cites as synonyms *R. grayi* and *R. verecundus*, which is still maintained as a species in Montana, but not in Colorado, Wyoming, and Utah.

Discussion. *Ranunculus gelidus* is still rare in R2, and the populations are small, according to the few informal counts we have. Details of population dynamics are lacking, as are accurate counts. Nothing is known of the relationship of this species to disturbance or to fluctuations in weather due to El Niño, La Niña, or global warming – there may be some effect, but we will probably never know what it is. *Ranunculus gelidus* seems to have a small viability concern in R2, but this is tentative, when really we do not know enough to assess its viability status.

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