Jove's Buttercup Found in the Pryors

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Last spring, in May 2005, Jennifer Lyman and Clayton McCracken found several populations of *Ranunculus jovis* on East Pryor Mountain in Carbon County, Montana. This finding of *Ranunculus jovis* in the Pryor Mountains is a significant northeastern extension of the plant's range—ninety miles over the Beartooth-Absaroka Range from the nearest previously known population in the northeast corner of Yellowstone National Park (YNP). This is the first report of *Ranunculus jovis* growing along the rim of the Bighorn Basin, of which the Pryors are the northern terminus.

Jove's buttercup is ranked S2 in Montana by the Montana Natural Heritage Program due to its perceived rarity in the state. However, additional surveys early in the field season, such as the one in the Pryors, may show that it is more abundant than previously thought. Botanists are unlikely to explore these sites with melting snow banks in early spring because of weather and road conditions. Globally, it is ranked G4 and is known from a six-state area. Heretofore, collections had been made in Montana locations immediately north of Yellowstone National Park in Paradise Valley and in the Beaverhead and Gallatin National Forests to the west of YNP. Over the past fifty years it has been found at several locations in YNP, to the south in the mountains of Wyoming, in the Wasatch Mountains of Utah, as well as in Idaho.

R. jovis may be found in various soils and plant communities. Within the Pryors the collection sites varied from *Artemisia tridentata*/grasslands with loamy, clay soil among limestone cobbles at 7000 feet elevation, to openings within the Douglas-fir forest at 8000 feet where the soil was richly organic and overlain by mucky duff.

Jove's buttercup is an ephemeral spring plant emerging with *Claytonia lanceolata* from underneath deep snow banks. Within the Pryors, at all population sites, the snow banks were sufficiently deep to support subnivean activity of the pocket gopher, *Thomomys talpoides*. This association has not been noted in collections made elsewhere; however, whenever the site has been described, it is often noted as being at the foot of a melting snow bank. Nelson's students found it on the 13th of July, "growing on naked 'slide soil' where snow drifts had but lately lain." Just as pocket gophers do, *R. jovis* may need the insulation afforded by the deep snow, which keeps the ground temperature just above or slightly below freezing.

Ranunculus species have long, tapered roots occasionally described as somewhat fleshy. Although species' descriptions state that these roots are fibrous, there appear to be several taproots from one plant. Each root projects small secondary rootlets. *R. jovis* has evolved these long, tapered roots into thick storage roots. Later in the season when the plant is in seed, it has darker brown, withered roots and plump, shinny white roots—like old and new potatoes. The plump roots, we assume, are storing the energy needed next spring. Spring ephemerals/deep snow bank plants require that energy source to emerge in bloom from under a snow bank.

Because its roots resemble pudgy fingers, Sir William Hooker conferred the name *Ranunculus digitatus* upon this plant, the initial collection having been made by Joseph Burke, probably in the spring of 1846, near Fort Hall in what is now Idaho.

Leslie Gooding and Elias Nelson, two young students of Nelson at the University of Wyoming, collected this plant from the slopes of the Thunderer, a mountain near Pebble Creek in Yellowstone National Park, during Aven Nelson's extensive plant collecting trip through the Park in 1899. Since it was collected on the Thunderer, Aven Nelson, who had problems choosing correct Latin names

for all his novelties, had a sure bet when naming this plant Jove's buttercup, *Ranunculus jovis*. This plant had been collected earlier in the 1890's in the Wasatch Mountains of Utah by such notables as Jones, Greene, and Rydberg as *R. digitatus*, which happened to be a name previously given to a European buttercup. Aven Nelson's *jovis* is now the recognized name.