

# Rough goldenweed

(*Pyrrocoma scaberula*)

## ENDANGERED



Flower (left) and habit (right) of rough goldenweed. Photos by Blair McClarin (2011), courtesy of University of Washington Burke Museum – Burke Herbarium Image Collection. If downloading images from this website, please credit the photographer.

### Family

Asteraceae

### Taxonomic notes

*Pyrrocoma scaberula* was previously merged with *P. liatrifomis* (Palouse goldenweed or small-headed goldenweed). The taxonomy of *Pyrrocoma* in the Pacific Northwest is an area of active research; genetic information will help us better understand the nature of specimens that do not fit the current understanding of geographic range and plant morphology.

### Plant description

Rough or scabrous goldenweed is a stout tap-rooted perennial with erect stems, 30-70 cm tall, usually glabrous but sometimes slightly roughened distally. Oblanceolate to narrowly elliptic basal leaves are 7-20 cm long and 6-19 mm wide, with entire margins and variable surface texture from glabrous to with sparse shaggy hairs. Cauline leaves are sessile or petiolate and reduce in size with height. Mature plants contain 4-12 radiate heads in raceme-like arrays. The 6-15 mm tall involucre contains 4-6 series of oblanceolate to oblong phyllaries with entire, sometime roughened margins and glabrous to sometimes resinous-dotted surfaces. The 12-25 conspicuous ray florets are 6-10 mm long, yellow, and surround the 35-50 disc florets that are 7-11 mm long. Fruits are 4.5-6.5 mm, brown with pubescent surfaces and pappus bristles 6-8 mm long.

### **Distinguishing characteristics**

Several congeners co-occur within the Blue and Wallowa Mountains region. *Pyrrcoma hirta* can be differentiated by its glandular stems and leaves. *Pyrrcoma carthamoides* can be differentiated by its lack of conspicuous ray florets. Additionally, *P. c. var. carthamoides*' range does not overlap with *P. scaberula*, although it occurs to the east and west, and *P. c. var. cusickii* tends to be smaller, only 3-40 cm tall. *Pyrrcoma lanceolata* is similar in that they contain conspicuous ray florets and three or more flowering heads not subtended by leafy bracts but differs in the inflorescence being arranged as corymb- or panicle-like rather than raceme-like in *P. scaberula*. *Pyrrcoma racemosa* has smaller disc flowers, 5-8 mm long, and fruits, 2-5 mm long, compared to 7-11 mm long disc flowers and 4.5-6.5 mm long fruits in *P. scaberula*; and *P. r. var. paniculata* is not known to co-occur in the same range. *Pyrrcoma radiata* is a localized endemic in portions of the Snake River Canyon in eastern Oregon and adjacent Idaho, and its flower heads are subtended by leafy bracts. *Pyrrcoma uniflora* is not known to occur north of Malheur County, OR and differs in having one (occasionally two) flowering as opposed to generally three or more.

### **When to survey**

Surveys should occur when plants are in flower from June to September.

### **Habitat**

*Pyrrcoma scaberula* habitat includes prairies dominated by *Festuca idahoensis*, *Pseudoroegneria spicata*, and *Koeleria macrantha*. The occupied areas can also include an "ecotone of prairie and *Pseudotsuga menziesii* or *Pinus ponderosa* dominated woodlands in canyons and ridgetops on loess soil over basalt or limestone at 730-1,300 m" (WNHP 2020).

### **Range**

*Pyrrcoma scaberula* is a regional endemic of the Snake River/Camas Prairie area of southeast Washington, northeast Oregon, and immediately adjoining Idaho.

### **Oregon counties**

Wallowa

### **Federal status**

None

### **Threats**

Rough goldenweed is threatened by habitat loss due to agricultural expansion. Additionally, invasive species further reduce habitat, especially after fire and/or grazing. In particular, *Ventenata dubia* and *Potentilla recta* are major threats. Weevils have been observed on plants, depositing eggs on flower heads upon which the larvae feed. Similarly, moth larvae suck tissue from leaves, further harming plants. Vehicle traffic, fire salvage logging, thorn mimic treehoppers, and hybridization with *Pyrrcoma liatriflora* have also been noted as concerns at one or more sites. Small population size is another concern as it can reduce genetic diversity and reproductive success. Climate change also has the potential to decrease survivability of the species.

### Did you know?

*Pyrrocoma scaberula* was synonymous with *Pyrrocoma liatriformis* (previously *Haplopappus liatriformis*) until Björk and Darrach (2009) examined morphological differences from 33 populations of *P. liatriformis* across its geographical range and found that grouping plants by Palouse grasslands and canyon/Camas Prairie grasslands accounted for most variation. Smith et al. (2010) determined that *P. scaberula* is indeed a distinct taxon based on amplified fragment length polymorphism data, hypothesizing that *P. scaberula* and *P. liatriformis* share a monophyletic common ancestor. It is worth noting that *P. liatriformis* is also extremely rare, though it does not occur in Oregon.

### References

- Björk, CR, and M Darrach. 2009. An investigation of morphological evidence supports the resurrection of *Pyrrocoma scaberula* (Asteraceae: Astereae). *Journal of the Botanical Research Institute of Texas*, 3 (1): 231-238.
- Chambers, K.L. 2020. *Pyrrocoma*: Goldenweed. Pp. 329-332. In: Meyers, S.C., T. Jaster, K.E. Mitchell, T. Harvey, L.K. Hardison, eds. 2020. Flora of Oregon. Volume 2: Dicots A-F. Botanical Institute of Texas, Fort Worth, Texas.
- Oregon Biodiversity Information Center (ORBIC). 2023. Element Occurrence Reports for *Pyrrocoma scaberula*. Unpublished cumulative data current to September 7, 2023. Institute for Natural Resources, Portland State University, Portland, OR.
- Oregon Biodiversity Information Center (ORBIC). 2016. Climate change vulnerability index assessment for rough goldenweed (*Pyrrocoma scaberula*). Institute for Natural Resources, Portland State University, Portland, OR.
- Smith, JF, DN Perkins, CR Björk, and G Glenne. 2010. Species boundaries in *Pyrrocoma liatriformis* and *Pyrrocoma scaberula* (Asteraceae) based on AFLP data. *Madroño*, 57 (2): 95-105.
- Yates, E. 2013. *Pyrrocoma scaberula* Inventory: Final report. Report for Wallowa-Whitman National Forest.