

Golden buckwheat (*Eriogonum chrysops*)



THREATENED



Flowers (left), habit (center), and habitat (right) of golden buckwheat. Photos by Thomas Kaye (left and center) and Dave Gross (right). If downloading images from this website, please credit the photographer.

Family

Polygonaceae

Plant description

Golden buckwheat is a low, matted perennial 2-10 cm tall by 5-20 cm in diameter, growing from a woody caudex with matted stems. Stems bear persistent leaf bases and reach up to 1/5 the height of the plant. Leaves are basal and arranged in tight terminal clusters, the petiole 0.2-0.5 (-0.8) cm long and tomentose, the blade oblanceolate to spatulate, (0.5-) 0.7-1 cm long by 0.2-0.4 (-0.5) cm wide, and densely white- or grayish-tomentose on both surfaces. Inflorescences are capitate, 0.5-1.5 cm wide, subtended by 3-5 scalelike triangular bracts 1-2 mm long, and borne on erect, slender scapelike stems. Involucres number 3-5 per cluster, are turbinate-campanulate to campanulate, 2.5-3 (-3.5) mm by 2.5-3 mm, membranous, and glabrous, with 5 sparsely floccose, erect teeth 0.6-1.2 mm long. Flowers are yellow, (2-) 2.5-3 mm long, sparsely glandular or infrequently glabrous, tepals oblong to narrowly obovate and 1/3 connate at the base, stamens 2-2.5 (-3) mm long and exerted, filaments pilose at the base. Achenes are light brown, 2.5-3 mm long, and glabrous except for a minutely bristly beak.

Distinguishing characteristics

Several other species of *Eriogonum* that closely resemble golden buckwheat occur within or near the range of this rare taxon. *Eriogonum ochrocephalum* var. *calcareum* is distinguished from golden buckwheat by its involucres, which have 6-8 teeth (versus 5) and number 5-8 per cluster (versus 3-5); *E. cusickii* has loose umbellate-cymose inflorescences, usually with only one involucre per node (versus tightly capitate clusters of several involucres); varieties of *E. ovalifolium* usually have matted, dense hairs, (versus long and distinct hairs) and involucres tomentose to floccose (versus glabrous except for margins of teeth); *E. caespitosum* involucres have 6-9 strongly reflexed teeth, 2-3.5 mm long (versus 5 erect teeth, 0.6-1.2 mm long) and reddish yellow flowers (versus yellow); *E. scopulorum* has glandular-hairy flowering stems and leaves (versus not glandular), inflorescences with 5-6 bracts (versus 3-5), involucres 5-7 per

cluster (versus 3-5) with 5-6 teeth (versus 5).

When to survey

Surveys for golden buckwheat should be completed when the species is flowering, from late May to early July.

Habitat

Golden buckwheat occurs on barren slopes and outcrops in shallow, gravelly basaltic or rhyolitic soils. Malheur County occurrences are located in open desert shrub communities at elevations between 1200-1400 m (3900-4600 ft).

Associated plant species include *Artemisia arbuscula*, *Lewisia rediviva*, *Trifolium macrocephalum*, *Lomatium cous*, *L. foeniculaceum*, *Eriogonum strictum*, *Elymus elymoides*, *Purshia tridentata*, *Allium* sp., *Poa secunda*, *Ericameria nauseosa*, *Phlox aculeata*, *Dimeresia* sp., *Arabis* sp., *Erigeron bloomeri*, and *Phoenicaulis* sp.

Range

Golden buckwheat is currently known from five scattered occurrences in the vicinity of Dry and Skull Creeks in Malheur County in eastern Oregon, within the Northern Basin and Range ecoregion. There is also one contemporary collection and two historic collections reputed to be this species from different sites in the Wallowa Mountains of northeastern Oregon, although the current status of these occurrences is unknown. The type specimen was originally thought to have been collected in Harney County, but historic records indicate the specimen was most likely collected in the Dry Creek area of Malheur county.

Oregon counties

Malheur, possibly Wallowa

Federal status

Species of Concern

Threats

Potential threats to the species include off-road vehicle use and grazing and trampling by livestock.

Did you know?

Golden buckwheat was first collected by William Cusick in 1901, reportedly from the "stony top of northern Stein's Mountains." It was thought to be extinct, as it was never relocated in the area Cusick described. In 1988, 87 years after the initial discovery of the species, naturalists Carolyn Wright and Dave Gross found golden buckwheat growing on rocky hilltops in the Dry Creek area of Malheur County. The pair had scoured historical records at numerous institutions, looking for clues to the precise locality of Cusick's golden buckwheat site. The key information came from notes written by Cusick housed at the University of Oregon that indicated he had been in the vicinity of Dry Creek on the day he collected the golden buckwheat specimen--about 45 miles beyond what we consider the northern extent of the Steens range today.

References

Bender, D. 1988. The buckwheat mystery: Naturalists turn detectives to solve puzzle. Salem Statesman-Journal. August 22, page 1B.

Meinke, R.J. 1982. Threatened and endangered vascular plants of Oregon: An illustrated guide. Unpublished report for the U.S. Fish and Wildlife Service, Region 1, Portland, Oregon. Oregon Department of Agriculture, Salem, Oregon.

OFP (Oregon Flora Project). 2010. Oregon Plant Atlas.
<http://www.oregonflora.org/atlas.php>. Accessed, March 23, 2011.

ORBIC (Oregon Biodiversity Information Center). 2010a. Rare, threatened and endangered species of Oregon. Institute for Natural Resources, Portland State University, Portland, Oregon. 105 pp. Available at
<http://orbic.pdx.edu/documents/2010-rte-book.pdf> (pdf document, 971 kB). Accessed December 13, 2010.

ORBIC (Oregon Biodiversity Information Center). 2010b. ORBIC element occurrence database. Portland, Oregon.

Reveal, J. L. 2005. *Eriogonum*. In: Flora of North America Editorial Committee, eds. 1993+. Flora of North America North of Mexico. 16+ vols. New York and Oxford. Vol. 5, pp. 221-430. Available at
http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=112045. Accessed March 27, 2011.

Wright, C., J. L. Siddall, and K. L. Chambers. 1978. Status report for *Eriogonum chrysops*. Unpublished report prepared for U.S. Fish and Wildlife Service.