

## BARNEBY REED- MUSTARD

*Schoenocrambe barnebyi* (S.L.  
Welsh & N.D. Atwood) Rollins  
Plant Symbol = SCBA80

Contributed by: USDA NRCS Idaho and Utah Plant  
Materials Program



Barneby reed-mustard (*Schoenocrambe barnebyi*). Photo by  
C.R. Delmatier

### Alternate Names

Syes Butte Plainsmustard  
*Thelypodopsis barnebyi*

### Uses

There are no known human or wildlife uses of  
Barneby reed-mustard.

### Status

Barneby reed-mustard was determined by the USDI-  
Fish and Wildlife Service to be an endangered  
species warranting protection in 1992 (USDI-FWS,

1992). There are an estimated 2,000 individual plants  
in existence (USDI-FWS, 1994).

Consult the PLANTS Web site and your State  
Department of Natural Resources for this plant's  
current status (e.g., threatened or endangered species,  
state noxious status, and wetland indicator values).

### Description

**General:** Mustard family (Brassicaceae). Barneby  
reed-mustard is a perennial forb with multiple stems  
arising from a branching woody caudex and taproot.  
The stems grow 10 to 35 cm (4 to 14 in) tall, and bear  
elliptical, entire leaves which can be hairy to glabrous  
and glaucous. The leaves are 13 to 51 mm (0.50 to 2.0  
in) long and 4 to 24 mm (0.16 to 0.94 in) wide with  
0.4 to 10 mm (0.02 to 0.40 in) long petioles. The  
flowers have four white to lavender petals, 10 to 12  
mm (0.40 to 0.47 in) long, with conspicuous purple  
veins. The fruit is a silique (a lengthened pod), 34 to  
65 mm (1.34 to 2.56 in) long and 1 to 2 mm (0.04 to  
0.08 in) wide (Welsh, et al., 2003).

### Distribution:

There are two known populations of Barneby reed-  
mustard. One population is within the boundary of  
Capitol Reef National Park in the Fremont River  
drainage west of Fruita, Utah in Wayne County, and  
the other population is in the southern portion of the  
San Rafael Swell in Emery County, Utah. The two  
populations are separated by a distance of  
approximately 40 km (25 mi).

For current distribution, consult the Plant Profile  
page for this species on the PLANTS Web site.

### Habitat:

Barneby reed-mustard inhabits semi arid canyonlands  
on steep slopes, generally with northern exposures.  
The plants grow in mixed shadscale (*Atriplex  
confertifolia*), buckwheat (*Eriogonum corymbosum*)  
and ephedra (*Ephedra torreyana* and *E. viridis*) plant  
communities (Welsh et al., 2003). Other plant  
associates include Utah serviceberry (*Amelanchier  
utahensis*), galleta grass (*Hilaria jamesii*), tarragon  
(*Artemisia dracunculus*) and rubber rabbitbrush  
(*Ericameria nauseosa*) (USDI-FWS, 1994).

### Adaptation

This species is endemic to red clay soils derived from  
the Moenkopi and Chinle Formations overlain with  
sandstone talus. These soils are rich in selenium and  
gypsum (USDI-FWS, 1994). Both populations are

found in a 15 to 23 cm (6 to 9 in) mean annual precipitation zone (WRCC, 2011).

### Management

Existing threats to the survival of Barneby reed-mustard include oil and gas exploration, oil-shale mining, stone quarrying, and off-road vehicle (ORV) use. An additional potential threat is habitat destruction due to uranium mining activity. A large portion of the San Rafael Swell population lies within existing mining claims. The Capitol Reef National Park population is at risk of habitat destruction from foot traffic caused by park visitors (USDI-FWS, 1994).

Management goals include the establishment of a minimum of 5 separate populations consisting of 2,000 or more individuals per population. This is to be accomplished by controlling the habitat threatening activities listed above, and by identifying suitable habitat for additional populations and introducing propagated materials. Life history, reproduction and ecological studies for the species are also indicated (USDI-FWS, 1994).

### Pests and Potential Problems

Historical sheep and cattle grazing use may have impacted Barneby reed-mustard on USDI-BLM lands. However current grazing levels are not believed to pose a serious threat.

### Environmental Concerns

There are no known environmental concerns associated with Barneby reed-mustard.

### Seed and Plant Production

Reproduction of Barneby reed-mustard is sexual. Flowering occurs from April to May with fruit ripening in May to June. Specific pollination vectors are unknown (USDI-FWS, 1994).

### References

USDI-Fish and Wildlife Service. 1992. Endangered and threatened wildlife and plants; final rule to determine the plant *Schoenocrambe argillacea* (Clay reed-mustard) to be a threatened species,

and the plant *Schoenocrambe barnebyi* (Barneby reed-mustard) to be an endangered species. In: Federal Register. 57(9): 1398-1403.

USDI-Fish and Wildlife Service. 1994. Utah reed-mustards; clay reed-mustard (*Schoenocrambe argillacea*), Barneby reed-mustard (*Schoenocrambe barnebyi*), shrubby reed-mustard (*Schoenocrambe suffrutescens*) recovery plan. Denver, Colorado. 22p.

Welsh, S.L., N.D. Atwood, S. Goodrich, and L.C. Higgins. 2003. A Utah Flora. Third Edition, revised. Brigham Young University, Provo, UT. Western Regional Climate Center. 2011. Online. <http://www.wrcc.dri.edu/index.html>. Accessed January 13, 2011.

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