

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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