

**BREAKS
BLADDERPOD**
Lesquerella rubicundula Rollins
OR
**KODACHROME
BLADDERPOD**
Lesquerella tumulosa
(Barneby) Reveal
Plant Symbol = LERU4

Contributed by: USDA NRCS Idaho Plant Materials Program



Figure 1. Kodachrome bladderpod (*Lesquerella tumulosa*). USDI FWS (2010).

Alternate Names

L. hitchcockii ssp. *tumulosa*
L. rubicundula
Physaria tumulosa
P. rubicundula var. *tumulosa*
Tum bladderpod

Uses

There are no known human or wildlife associated uses associated with Kodachrome bladderpod.

Taxonomy

There have been numerous taxonomic changes and suggestions made regarding Kodachrome bladderpod specifically, and the genus *Lesquerella* as a whole. In 2002, *Lesquerella* was subordinated within the genus *Physaria* by Al-Shehbaz and O’Kane (2002). Other

taxonomists have not followed this realignment, or follow it hesitantly, noting that there is little difficulty in separating the two groups at generic level (Welsh et al 2003).

Kodachrome bladderpod was originally described as *L. hitchcockii* ssp. *tumulosa* by Barneby (1966). It was later elevated to species status by Reveal (1970), and in 1973, Rollins and Shaw placed *L. tumulosa* in *L. rubicundula*. More recently, Welsh and others have followed Al-Shehbaz and O’Kane (2002) in placing *Lesquerella* in the genus *Physaria*, but have assigned Kodachrome bladderpod varietal status within *P. rubicundula* creating the new *P. rubicundula* var. *tumulosa* (2003). The PLANTS Database (2010) currently follows Rollins (1993) and places *L. tumulosa* within *L. rubicundula*. Publication of the anticipated volume 7 of Flora North America may create further changes or could greatly help in settling the matter. This plant guide focuses primarily on *L. tumulosa*, its status as an endangered species and on management objectives for its recovery and protection.

The previously mentioned taxonomic changes may have significant implications for this taxon’s status as an endangered species. *Lesquerella rubicundula* and *L. hitchcockii* are both limited to a small area in Utah and Nevada, but neither is as restricted in area as *L. tumulosa*. Therefore if *L. tumulosa* is synonymized with *L. rubicundula* or *L. hitchcockii*, it would likely not be considered to be endangered.

Status

Kodachrome bladderpod was officially listed as an endangered species in 1993 (USDI FWS). There is currently no comprehensive recovery plan created for the species, but a revised recovery outline is being used until a final recovery plan has been approved (USDI FWS 2009).

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 or Cruciferae). Kodachrome bladderpod is a small, perennial mound forming forb reaching approximately 4 cm tall. The leaves are stemless, 3 to 12 mm (0.1 to 0.5 in) long and 1 to 2 mm (0.04 to 0.08 in) wide with stellate (star-like) hairs. The

flowers have four yellow petals from 5 to 7 mm (0.2 to 0.3 in) in length (Welsh et al. 2003). The fruit is an egg-shaped silicle (capsule) approximately 3 to 5 mm (0.1 to 0.2 in) long containing 4 to 8 seeds.

According to Welsh et al. (2003) *L. tumulosa* differs from *L. rubicundula* in being densely pulvinate caespitose (very tightly mound forming) and having smaller styles, averaging 1.5 to 2.8 mm (0.06 to 0.11 in) versus 2.8 to 5.5 mm (0.11 to 0.22 in) for *L. rubicundula*.

Distribution:

Kodachrome bladderpod is endemic to white, semibarren shale knolls in Kane County, Utah. There is a single known population of scattered occurrence in the Kodachrome Flats area of the Paria River drainage in Utah (USDI-FWS 2009). The population covers an area of approximately 4 km (2.5 mi) long by 1.2 km (0.75 mi) wide and is comprised of approximately 20,000 individual plants. Currently, most of the species range (90 %) is located within the Grand Staircase Escalante National Monument (GSENM) which is managed by the Bureau of Land Management. The remaining habitat is owned by Kodachrome Basin State Park and private landowners (USDI-FWS 2009). For current distribution, consult the Plant Profile page for this species on the PLANTS Web site.

Habitat:

Due to the unique environmental factors of the area, Kodachrome bladderpod grows with several other mound-forming species, many endemic to the region and even particular geologic substrates (Welsh et al. 2003). The ecological site is described as a *Bouteloua*, (grama species) grassland with scattered Utah juniper; however the vast majority of the habitat has very little vegetative cover. Species found growing in association with Kodachrome bladderpod include antelope bitterbrush (*Purshia tridentata*), yellow cryptantha (*Cryptantha flava*), pinyon pine (*Pinus edulis*), Utah juniper (*Juniperus osteosperma*), and Indian ricegrass (*Achnatherum hymenoides*) (USDI-FWS 2009).

Adaptation

This narrow endemic is restricted to white, bare shale knolls derived from the Winsor member of the Carmel Formation in xeric outcrops at 1,700 m (5,700 ft) elevation.

Establishment

There are no known propagation protocols for Kodachrome bladderpod.

Management

Since the majority of the species habitat is located within National Monument boundaries, there is no immediate threat from development. However new road construction and off road vehicle (ORV) use are a concern. There also exists an active gravel quarry in Kodachrome bladderpod habitat. GSENM has constructed a series of fences to deter ORV use within some occupied areas; however most sites remain accessible to public ORV use.

Cattle grazing is currently permitted within GSENM in Kodachrome bladderpod habitat; however, grazing occurs outside of the reproduction season for the species and it is thought that grazing impacts are minimal.

Future management plans consist of monitoring of populations, protection from ORV use through signage, fencing and education, and evaluation of cattle use and impacts (USDI-FWS 2009).

Pests and Potential Problems

There are no known pests or potential problems associated with Kodachrome bladderpod.

Environmental Concerns

There are no known environmental concerns associated with Kodachrome bladderpod.

Seeds and Plant Production

From the little that is known regarding the reproduction of Kodachrome bladderpod, it appears that the species primarily reproduces sexually. Field observations have documented flowering and the presence of potential pollinators which may indicate at least some outcrossing. Flowers bloom from late April through May with seed dispersal in June (USDI-FWS 2009).

References

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