

**ARIZONA GAME AND FISH DEPARTMENT  
HERITAGE DATA MANAGEMENT SYSTEM**

**Plant Abstract**

**Element Code:** PDAST9C0R0  
**Data Sensitivity:** No

**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE**

**NAME:** *Townsendia smithii* L. Shultz & A. Holmgren

**COMMON NAME:** Blackrock ground daisy, Black Rock Ground-daisy, Black Rock daisy, Black Rock Townsend daisy, Black Rock, Townsend-daisy

**SYNONYMS:**

**FAMILY:** Asteraceae

**AUTHOR, PLACE OF PUBLICATION:** L.M. Shultz and A.H. Holmgren, *Brittonia* 32(2): 144-146, f. 1. 1980.

**TYPE LOCALITY:** Arizona, Mohave Co.: Black Rock Mountain, 2.2 mi E of Sullivan Springs and 11.5 airline mi SE of Littlefield, 2380 m (7800 ft) elev.

**TYPE SPECIMEN:** HT: UTC (sn). A. Holmgren 16380, L. Shultz, J. Shultz and F. Smith, 4 Jun 1977. IT: ARIZ, BRY, CAS, COLO, MNA, NY, MSC, etc.

**TAXONOMIC UNIQUENESS:** The genus *Townsendia* is composed of approximately 25 species that are native to central and western North America and adjacent Mexico. Geographical barriers have resulted in the isolation and definition of the species. The species *smithii* is 1 of 6 species of *Townsendia* that occur in Arizona. The other species include *T. formosa* (New Mexico Townsend-daisy), *T. eximia* (Rocky Mountain Townsend-daisy), *T. excapa* (Silky Townsend-daisy), *T. annua* (Annual Townsend-daisy), and *T. incana* (Hoary Townsend-daisy). The very distinctive *T. smithii* is restricted to red basalt-derived soil and is known from one mountain range in the northwestern corner of Arizona, where it was discovered in 1976 by Frank J. Smith. (Shultz and Holmgren 1980).

**DESCRIPTION:** Herbaceous perennial <15 cm (<6 in) tall, with a woody base, and a rosulate growth form that forms dense tufts of leaves. The leaves are spatulate to linear-spatulate, somewhat fleshy and sparsely hoary with gray pubescence. The solitary flower heads are showy and exerted from the rosette of basal leaves. The pistillate ray florets are pink to white in color with a dark pink to red (on drying) stripe on their back sides. The perfect disk florets are yellow. The pappus is composed of squamellae and the achenes are light brown. The showy flower heads, up to 5 cm (2 in) across, are exerted from the leaves on 3-8 cm long stalks. (Brian et al. 1982; Falk et al. 2001; NatureServe 2001, 2005).

**AIDS TO IDENTIFICATION:** "Within *Townsendia*, *T. smithii* is unique in its combination of a reduced pappus, monocephaly and a taprooted, rosulate growth form. It is most similar to *T.*

*eximia* A. Gray, *T. formosa* Greene and *T. exscapa* (Richards.) Porter. Although these species are represented by neighboring populations, there are a number of morphological differences and there is no indication of hybridization.” (Shultz and Holmgren 1980).

**ILLUSTRATIONS:** Line drawing (Shultz and Holmgren, 1980: 145).  
Line drawing (Falk and Jenkins et al., 2001).  
Color photos of plant and habitat (L. Hughes, *in* Falk and Jenkins et al., 2001).  
Color photo of Isotype (NY-274171, *in* NYBG at <http://207.156.243.8/emu/vh/specimen.php?irn=287414>)  
Color photos (Margaret Williams, *in* [http://plants.usda.gov/cgi\\_bin/plant\\_search.cgi](http://plants.usda.gov/cgi_bin/plant_search.cgi))

**TOTAL RANGE:** Black Rock Mountain and adjacent Wolfhole Mountain, Virgin Mountains, Mohave County, Arizona.

**RANGE WITHIN ARIZONA:** See “Total Range”.

### **SPECIES BIOLOGY AND POPULATION TRENDS**

**GROWTH FORM:** Densely caespitose herbaceous perennial.

**PHENOLOGY:** Flowers from May to June (Shultz and Holmgren 1980). Falk et al. (2001) reports that “flowering April and May, fruiting May and June.”

**BIOLOGY:**

**HABITAT:** Grows on basalt-derived soils, with *Artemisia tridentata* in openings, and on fringes of *Pinus ponderosa* woodland.

**ELEVATION:** 5,750 - 7,803 ft (1754-2380 m). NatureServe (2005), reports elevation from 6,492-7,803 feet (1980-2380 m).

**EXPOSURE:** Occurs on all exposures on slopes of 0-10%.

**SUBSTRATE:** Red-basalt derived soils.

**PLANT COMMUNITY:** Petran Montane Conifer Forest and Great Basin Conifer Woodland, specifically Arizona pine forest (*Pinus*) and Juniper-pinyon woodland (*Juniperus-Pinus*). Dominant associated species include: *Agoseris glauca* var. *laciniata* (Mountain dandelion), *Amelanchier utahensis* (Utah serviceberry), *Artemisia tridentata* (Big sagebrush), *Delphinium scaposum* (Barestem larkspur), *Fritillaria atropurpurea* (Fritillary), *Ipomopsis aggregata* (Sky rocket), *Juniperus osteosperma* (Utah juniper), *Phlox* (= *Microsteris*) *gracilis* (false phlox), *Phlox*

*woodhousei* (= *P. speciosa* ssp. *woodhousei*, Woodhouse's phlox), *Pinus edulis* (Pinyon pine), *P. ponderosa* (Ponderosa pine), *Poa fendleriana* (Muttongrass), *Purshia tridentata* (Antelope brush), *Quercus gambelii* (Gambel oak), and *Zigadenus paniculatus* (foothill deathcamas). (Brian et al. 1982).

**POPULATION HISTORY AND TRENDS:** Locally common but very narrowly endemic to a small area in the Virgin Mountains in Mohave County, Arizona (NatureServe 2001).

### **SPECIES PROTECTION AND CONSERVATION**

**ENDANGERED SPECIES ACT STATUS:** None (USDI, FWS 1990)  
[3C USDI, FWS 1985]  
[3C USDI, FWS 1983]  
[C1 USDI, FWS 1980]

**STATE STATUS:** None

**OTHER STATUS:** [Bureau of Land Management Sensitive (USDI, BLM 2000, 2005)]

**MANAGEMENT FACTORS:**

**PROTECTIVE MEASURES TAKEN:** The Black Rock population occurs in a designated Wilderness Area (BLM owned) and seems to be healthy.

**SUGGESTED PROJECTS:**

**LAND MANAGEMENT/OWNERSHIP:** BLM – Arizona Strip Field Office.

### **SOURCES OF FURTHER INFORMATION**

#### **REFERENCES:**

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**MAJOR KNOWLEDGEABLE INDIVIDUALS:**

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**ADDITIONAL INFORMATION:**

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