ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Plant Abstract **Element Code:** PDROS1E010
Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Purshia glandulosa* Curran
COMMON NAME: waxy bitterbrush, desert bitterbrush, glandular bitterbrush, Mojave antelope brush
SYNONYMS: *P. tridentata* var. *glandulosa* (Curran) M.E. Jones, *Kunzia glandulosa* (Curran) Greene
FAMILY: Rosaceae

AUTHOR, PLACE OF PUBLICATION: Curran, Bull. Calif. Acad. Sci. 1(3): 153. 1885.

TYPE LOCALITY: Mohave side of Tehachapi Pass, Kern County, California, U.S.A.

TYPE SPECIMEN: M.K. Curran s.n., May and July 1884.

TAXONOMIC UNIQUENESS: Species *glandulosa* is 1 of 7 in the genus *Purshia*. Welsh et al. (1993) reports that this plant "is presumed to have arisen as a product of hybridization between *P. mexicana* and *P. tridentata*. It resembles the former in vegetative characteristics and the later in pistil number (usually 1, but sometimes 2 or 3), and non-plumose styles." Cronquist et al. (1997), reports that Desert (Waxy) bitterbrush sometimes hybridizes with *P. tridentata* (antelope bitterbrush) and *P. stansburiana* (Stansbury cliffrose) and has been thought to have originated from a cross between these two species. Besides hybridizing with Stansbury cliffrose, and antelope bitterbrush, it may also hybridize with Apache-plume (*Fallugia paradoxa*) (Zlatnik 1999).

DESCRIPTION: Dark green, diffusely branched, upright or sprawling shrub 1 - 2 m (3.3-6.6 ft), sometimes 3 m (9.8 ft) high. The stems of the current season redish-brown, with stipulate-glandular hairs, the bark of the older branches gray. Herbage with many prominent glands, these tending to be stipitate on the branches and sunken on the leaves except at the margins; branchlets glabrous; leaves 4-12 mm long, apically 3-toothed or rarely with 5 teeth or with 3 or rarely 5 linear lobes. The margins revolute, glabrous or glabrate above and thinly hairy beneath or at first somewhat tomentose. The inflorescence consists of solitary flowers terminating the short, lateral branchlets, the pedicels stipitate-pubescent; hypanthium funnelform, 3.5-5 mm long, tomentulose, sometimes stipitate-glandular; sepals ovate, 1.7-2.5(-3) mm long, obtuse or rounded. Petals yellow, sometimes creamy white, spatulate, 5-8 mm long; achene densely short-hairy, body and style about 1.5 cm long, tapering to a beak.

AIDS TO IDENTIFICATION: For *P. glandulosa*, stems of the current season with stipulate-glandular hairs; principal leaves 4.5-12 mm long, (3-)5-lobed, the upper surface conspicuously glandular-punctate. For *P. tridentata*, stems of the current season without stipulate-glandular hairs, principal leaves 10-23 mm long, 3-lobed, the upper surface usually not glandular-punctate. (Cronquist et al. 1997).

ILLUSTRATIONS: Line drawing (Cronquist et al., 1997: p. 127)
Line photos (Benson and Darrow 1981: Fig. 3.258 and Fig. 3.259)
Color photo of seeds (Steve Hurst, *in* USDA Plants database at http://plants.usda.gov)
Color photos (Gerald and Buff Corsi 1999 CAS, *in* CalPhotos at http://elib.cs.berkeley.edu/cgi/img_query)
Color photos (Charles Webber 1998-1999 CAS, *in* CalPhotos at http://elib.cs.berkeley.edu/cgi/img_query)
Color photo (*in* http://www.calflora.net/bloomingplants/antelopebush.html)

TOTAL RANGE: Fairly widespread through dry mountain ranges in southern California, and Baja California, and parts of southwest Utah (Washington and Iron cos.), northern Arizona (Mohave and Navajo Cos.), southern Nevada (as far north as the Wassuk Range).

RANGE WITHIN ARIZONA: Northern Arizona in Mohave (Beaver Dam Mountains; Big Valley; Black Mountains; Grand Wash Cliffs) and Navajo counties.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Perennial evergreen shrub.

PHENOLOGY: Blooms from April to June.

BIOLOGY:

HABITAT: This plant of hot, usually dry rocky sites, is found in washes, foothills, and on canyon slopes and bottoms in desert shrub communities, with blackbrush, sagebrush, and at lower limits of pinyon-juniper communities. In the White Mountains, it is sometimes found higher with sagebrush and scattered bristlecone pine (Cronquist et al. 1997).

ELEVATION: 3,280 – 7,217 ft. (1000 - 2200 m). In Mohave County, ranges from 3,200 – 4,100 ft. (975-1250 m). CalFlora (1993) reports elevations ranging from 2,800 - 9,000ft (853 – 2743 m). Hickman (1993) reports elevation range from 2,295 - 9,836 ft (700 - 3000 m).

EXPOSURE: Collected on 10% S to SE-facing slopes.

SUBSTRATE: Often in rocky, and gravelly, sand loam soils.

PLANT COMMUNITY: Desert Shrub, Chaparral, Joshua tree woodland, and pinyon-juniper woodland communities. Less commonly in cottonwood-salix riparian communities. Associated species include: *Coleogyne ramosissima* (Blackbush), *Encelia* (Brittlebush), *Ericameria linearifolia* (Narrow-leaf Golden-weed), *Hymenoclea* (Burrow-brush), *Juniperus californica* (California Juniper), *Salazaria mexicana* (Mexican Bladder-sage), *Salvia dorrii* (Gray ball sage), *Thamnosma*, *Yucca baccata* (Fleshy-fruit Yucca), and *Y. brevifolia* (Joshua Tree). (From collections in SEINet, accessed 2005).

POPULATION HISTORY AND TRENDS: Unknown. Fairly widespread and common through dry mountain ranges where found (NatureServe 2005).

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None
STATE STATUS: None
OTHER STATUS: None (USDI, BLM AZ 2005)
[Bureau of Land Management Sensitive (USDI, BLM AZ 2000)]

MANAGEMENT FACTORS: Well-adapted to fire and grazing (NatureServe 2005).

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS: Genetic studies need to be conducted to confirm the origin of this plant.

LAND MANAGEMENT/OWNERSHIP: BLM – Arizona Strip and Kingman Field Offices; State Land Department; Private.

SOURCES OF FURTHER INFORMATION

REFERENCES:

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MAJOR KNOWLEDGEABLE INDIVIDUALS:

ADDITIONAL INFORMATION:

The genus name *Purshia*, is in honor of "Frederick Traugott Pursh (1774-1820), a Saxon explorer, collector, horticulturist and author who studied botany at Dresden where he was on the staff of the Royal Botanical Garden, an then lived in the U.S. from 1799 to 1811, received the plant collections from the Lewis and Clark expedition and was the first to publish on them, and wrote an important botanical work entitled Flora Americae Septentrionalis in 1813 after moving to England." (http://www.calflora.net/botanicalnames/).

The species name *glandulosa*, means "provided with glands," referring to the secreting structures on the surface ending in hairs or other plant parts. (http://www.calflora.net/botanicalnames/).

Revised: 2002-02-21 (SMS)
2005-08-04 (SMS)

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