



ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Plant Abstract

Element Code: PDASC02290

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Asclepias welshii*
COMMON NAME: Welsh's Milkweed
SYNONYMS:
FAMILY: Asclepiadaceae

AUTHOR, PLACE OF PUBLICATION: N.H. Holmgren and P.K. Holmgren. Brittonia
31(1): 110-114, f. 1-2. 1979.

TYPE LOCALITY: North end of Coral Pink Sand Dunes, Kane County, Utah, U.S.A.

TYPE SPECIMEN: HT: NY. N. Holmgren and P. Holmgren 9009, 20 June 1978. IT: BRY,
UT, UTC.

TAXONOMIC UNIQUENESS: Asclepiadaceae has approximately 250 genera and 2000
species (18 genera and 75 species in North America), chiefly of tropical and subtropical
regions of both hemispheres. *A. welshii* is a very distinctive species with no obvious close
relatives (Sundell 1993).

DESCRIPTION: Herbaceous perennial with a root system of vertical taproots and
horizontal runners connecting clusters of stems 2.5-10.0 dm (10.0-40.0 in.) tall, erect or
ascending; few to several in a cluster. Leaves opposite, densely white-woolly pubescent at
first, becoming glabrous especially beneath. Upper leaves broadly elliptic to ovate or obovate
with short petioles, 7.0-9.0 cm (2.8-3.6 in.) long, 3.5-6.0 cm (1.4-2.4 in.) broad. Lower leaves
are smaller, sessile, with acuminate tips. Foliage and stems with dense white-woolly
tomentum. Inflorescence spherical, 7 cm (2.8 in) in diameter on a short pedicel, compactly
many-flowered with the flowers so crowded as to prevent the corolla lobes from becoming
truly reflexed. Pedicels 8.0-13.0 mm (0.32-0.52 in.) long, cottony-pubescent. Peduncles 2.0-
4.0 cm (0.8-1.6 in.) long. Corolla 6.0-7.0 mm long, ovate, cream colored with rose-tinged
center, reflexed at base with lobes usually forced upward in the thick-lacked umbel,
tomentulose beneath. Large broadly oval seeds 20+ mm long, with rudimentary tuft of hairs.
Few fruits develop; propagates mostly from rhizomes.

AIDS TO IDENTIFICATION: “*A. welshii* is distinguished by its anther wings, which are
broadest near the middle rather than at the base, by its warty rather than smooth follicles, and
by its sepals, which are subequal to the corolla lobes rather than obviously shorter”

(Holmgren and Holmgren 1979). According to Falk and Jenkins et al. (2001), “*A. welshii* is distinguished from other milkweeds by its large seeds, spreading to pendulous follicles and cottony-pubescent pedicles. Juvenile resembles *A. cutleri* Woodson.”

Two other growth forms are known to exist. What is designated as the “primary” growth form has narrow linear leaves and looks very similar to *A. subverticillata*. A second form exhibits intermediate leaf traits of the “primary” form and the first description (the “mature” form described above) and is called the “secondary” form. (CPC accessed 2003).

ILLUSTRATIONS: Line drawing (Holmgren and Holmgren 1979:111)
Color photos of plant and habitat (Joyce Maschinski, *in* http://ridgwaydb.mobot.org/cpweb/CPC_ProfileImage.asp?FN=312)
Color photo (Ben Franklin, in Utah Div. Of Wildlife Res., <http://www.utahcdc.usu.edu/rsgis2/Search/Display.asp?FINm=asclwels>)
Line drawing (KHT in Falk and Jenkins et al. 2001)
Color photo of plant in habitat (Joyce Maschinski, *in* Falk and Jenkins et al. 2001)
Color photo of plants in habitat (Ben Franklin, *in* Falk and Jenkins et al. 2001)

TOTAL RANGE: Near the Utah-Arizona state line, from the Coral Pink Sand Dunes and Sand Hills, in Kane County Utah, and from Coconino, Navajo and Apache counties, in Arizona .

RANGE WITHIN ARIZONA: From the Paria Plateau and Hwy 160 north of Wildrose Spring, Coconino County, and in Little Capitan Valley in Navajo County east into Apache County.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Perennial forb/herb.

PHENOLOGY: Flowers May to June, with seed dispersal from July to early September. Utah Div. of Wildlife Res. (UDWR) reports flowering from June to August.

BIOLOGY: Plants produce milky juice. They reproduce mainly by rhizomes, but by seed when conditions are right. Pollinated by insects. The dense tomentum on the young parts of *A. welshii* may serve to protect the tender growing tissues from the abrasive wind-blown sand and may be important in reducing transpirational water loss (Cronquist et al. 1984).

HABITAT: Found on open, sparsely vegetated semi-stabilized coral pink sand dunes, in sagebrush, juniper, pine and oak communities of the Great Basin desertscrub, at 1700-1900

meters. Occupies both the crest and lee slopes of dunes (derived from Navajo Sandstone), adjusting readily to changes in depth of the sand. (Welsh et al. 1993, in NatureServe 2003).

ELEVATION: 4,700 - 6,250 ft. (1434 - 1906 m). UDWR reports elevation range of 1542 to 1993 meters (5,056 – 6,534 ft).

EXPOSURE:

SUBSTRATE: Sand dunes

PLANT COMMUNITY: Sagebrush, juniper, pine and oak communities of the Great Basin deserts scrub. Associated species include *Wyethia scabra*, *Calamovilfa gigantea*, *Chrysothamnus nauseosus*, and *Sophora stenophylla*.

POPULATION TRENDS: Welsh's milkweed is a rare plant due to its small geographic range, narrow habitat specificity, and small number of small populations. Its rareness appears to be naturally caused but makes the species more vulnerable to both natural and human-induced extinction. (Meyer, accessed 2003). Known from 4 location with a total of approximately 20,000 above-ground stems; the number of genetic individuals is unknown (NatureServe 2003).

CPC (2003) reports that there are now three Utah populations: Coral Pink Sand Dunes (ca. 10,000 individuals), 2) Sand Hills (ca. 500 individuals), 3) Sand Cove (Ca. 600 individuals). At least two others are known to exist in Navajo County, Arizona and in the Paria-Vermillion Cliffs Wilderness area near the Utah/Arizona border in Kane County, Utah and Coconino County, Arizona (Palmer and Armstrong 2000, in CPC 2003).

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: LT with Critical Habitat (USDI, FWS 1987)
STATE STATUS: Highly Safeguarded (ARS, ANPL 1999)
[Highly Safeguarded (ARS, ANPL 1993)]
OTHER STATUS: Group 3 (NNDFW, NESL 2005)
[Group 4 (NNDFW, NESL 2000)]

MANAGEMENT FACTORS: The species' sand dune habitat is very fragile and is threatened by off-road vehicle (ORV) activity, drought, and to a lesser extent herbivory and trampling by livestock.

PROTECTIVE MEASURES TAKEN: BLM has monitored the species for the past 12 years and has been enforcing ORV regulations to protect dunes (Palmer and Armstrong 2000, in CPC 2003).

SUGGESTED PROJECTS: Seed germination protocol has been determined, but cultivation for more than 2 years has been problematic. Further cultivation trials are needed. In addition, the possibility of creating new dune habitat adjacent to occupied habitat could be explored.

LAND MANAGEMENT/OWNERSHIP: BIA – Navajo Nation; BLM – Arizona Strip Field Office; and Utah State Parks.

SOURCES OF FURTHER INFORMATION

REFERENCES:

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MAJOR KNOWLEDGEABLE INDIVIDUALS:

ADDITIONAL INFORMATION:

The Utah Endangered Threatened and Sensitive Plant Field Guide states ... "Recognized by the large seeds 20 mm long)..." This is in contradiction to Holmgren and Holmgren who give the size of the seed as 1.2 mm.

Revised: 1994 07-11 (DBI)
 1994-07-12 (BGP)
 2003-08-21 (SMS)

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