

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

Plant Abstract

Element Code: PDCRA06010

Data Sensitivity: Yes

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Graptopetalum bartramii* Rose
COMMON NAME: Bartram Stonecrop
SYNONYMS: *Echeveria bartramii*
FAMILY: Crassulaceae

AUTHOR, PLACE OF PUBLICATION: Rose. 1926. Addisonia 11:1-2, pl. 253.

TYPE LOCALITY: Arizona: Santa Cruz County: Patagonia Mountains: Flux Canyon.

TYPE SPECIMEN: E. Bartram. 1920.

TAXONOMIC UNIQUENESS: One of nine species in the genus *Graptopetalum*, one of two in Arizona, which also includes *G. rusbyi*.

DESCRIPTION: Small succulent perennial with a **rosette of basal leaves**. These leaves, numbering 20 or more, are flat or somewhat concave, bluish-green with a reddish margin and tip, up to 6.5 cm (2.6 in.) long, and ovate to broadly spatulate with a pointed tip. Flower stalk up to 0.3 m (1.0 ft.) high with alternate bractlike leaves. Five-parted flowers arranged along multi-branched stalk are 19.0-32.0 mm (0.76-1.28 in) wide. Five petals joined at bottom are broadly campanulate when blooming. Colored pale- or greenish-yellow, 13.0 mm (0.52 in.) petals are transversely banded or blotched with red. Ten red stamens often recurve outside of petals. Valves of 5 carpels abruptly tipped with styles.

AIDS TO IDENTIFICATION: Grows as solitary rosettes or in clumps on ledges or slopes of steep walled canyons. Thick succulent leaves glaucous and gray-green in color. Old flowering stalks give population reddish-brown appearance from a distance. Flowers reported to have strong disagreeable odor resembling odor of stinkhorn fungus (Phillips 1982). Leaves of distinctive shape.

In its longer, apiculate leaves, acute sepals, paniculate inflorescence, and fall phenology *G. bartramii* differs from *G. rusbyi* (Anderson 1999).

ILLUSTRATIONS: Line drawings of flowers (Moran 1949 Fig.1:4).
Line drawings of flowers (Moran 1949 Figs.2 and 3:55).
B&W photo of rosette (Moran 1974 Fig.1:94).

TOTAL RANGE: Southern Arizona and Chihuahua, Mexico (one record).

RANGE WITHIN ARIZONA: Santa Cruz County: Patagonia, Santa Rita and Tumacacori Mountains; Pima County: Baboquivari, Dragoon, Mule and Rincon Mountains; Cochise County: Chiricahua Mountains.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Perennial succulent.

- PHENOLOGY:** Flowering and fruiting in October. Anderson (1999) reports a flowering/fruiting period from September to February.
- BIOLOGY:** Both sexual and vegetative reproduction.
- HABITAT:** Cracks in rocky outcrops in shrub live oak-grassland communities along meandering arroyos on sides of rugged canyons. Usually heavy litter cover and shade where moisture drips from rocks, often with Madrean evergreen woodland.
- ELEVATION:** 3,650 to 6,700 ft (1113 - 2044 m). Based on records in the Heritage Data Management System (HDMS), elevation ranges up to 6,300 ft (1922 m).
- EXPOSURE:** North.
- SUBSTRATE:**
- PLANT COMMUNITY:** Madrean evergreen woodland. Dominant associated species are, *Juniperus deppeana*, *Rhus trilobata*, *Agave schottii*, *Yucca baccata*, *Dasyllirion wheeleri*, *Fouquieria splendens*, *Choisya mollis*, *Cercocarpus montanus*, *Bouteloua curtipendula* and *Muhlenbergia* spp. Also in rocky outcrops in shrub live oak-grassland communities.

POPULATION TRENDS:**SPECIES PROTECTION AND CONSERVATION**

- ENDANGERED SPECIES ACT STATUS:** None (USDI, FWS 1996)
[C2 USDI, FWS 1983]
[C1 USDI, FWS 1980]
- STATE STATUS:** Salvage Restricted (ARS 1993)
- OTHER STATUS:** Forest Service Sensitive (USDA, FS Region 3 1990, 1999)
Bureau of Land Management Sensitive (USDI, BLM AZ 2000)

MANAGEMENT FACTORS: Small, isolated populations. Illegal collection main management issue. Mining and mineral exploration; habitat alteration due to livestock grazing; trampling by cattle and recreationists; road construction and maintenance. Protect population(s) from expansion of Ruby Road.

PROTECTIVE MEASURES:

SUGGESTED PROJECTS: Surveys to delimit range

LAND MANAGEMENT/OWNERSHIP: BLM - Tucson Field Office; NPS - Saguaro National Park; USFS - Coronado National Forest; TNC - Thomas Canyon Preserve. Possibly on BIA - Tohono O'odham Nation.

SOURCES OF FURTHER INFORMATION**LITERATURE CITATIONS:**

- Arizona Revised Statutes, Chapter 7. 1993. Arizona Native Plant Law. Appendix A:8.
- Kearney, T.H., R.H. Peebles with collaborators. 1960. Arizona flora. Second edition with supplement by J.T. Howell, E. McClintock and collaborators. University of California Press. Berkeley. p. 361
- Moran, R. 1949. *Graptopetalum bartramii* in Chiricahua. Desert Plant Life. 21:53-56.

- Moran, R. 1974. *Graptopetalum bartramii* Rose. Saguaroand Bulletin. 28:94-95.
- Phillips, A.M. III, B.G. Phillips, N. Brian, J. Mazzoni, L.T. Green III. 1982. Status report on *Graptopetalum bartramii*. Prepared for U.S. Fish and Wildlife Service, Albuquerque, New Mexico.
- Rutman, S. 1994. Bureau of Land Management, Safford District, Rare Plant Workshop. November 14-16. Tucson, Arizona.
- USDA, Forest Service Region 3. 1990. Regional Forester's Sensitive Species List.
- USDA, Forest Service Region 3. 1999. Regional Forester's Sensitive Species List.
- USDI, Bureau of Land Management. 2000. Arizona BLM Sensitive Species List. Instruction Memorandum No. AZ-2000-018.
- USDI, Fish and Wildlife Service. 1980. Endangered and Threatened Wildlife and Plants; Review of Plant Taxa for Listing as Endangered or Threatened Species. Federal Register 45(242):82512.
- USDI, Fish and Wildlife Service. 1983. Endangered and Threatened Wildlife and Plants; Supplement to Review of Plant Taxa for Listing; Proposed Rule. Federal Register 48(229):53651.
- USDI, Fish and Wildlife Service. 1996. Endangered and Threatened Wildlife and Plants: Review of Plant and Animal Taxa That Are Candidates for Listing as Endangered or Threatened Species; Notice of Review. Proposed Rule. Federal Register 61(40):7595-7613.

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ADDITIONAL INFORMATION:

- Species name *Graptopetalum* from Greek "petals marked with writing."
- New treatment of *Graptopetalum*: Moran, Reed. 1993. Journal of Arizona-Nevada Academy of Science. Vol. 27:190-193. Newest and best key for Crassidaceae.

Isotypes include: NY 387949, E.B. Bartram, 21 Nov 1924; NY 387950, E.B. Bartram 54708, Sep-Oct 1925.

Revised: 1990-12-20 (SR)
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