

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

Plant Abstract

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CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE



NAME: *Eriogonum capillare*
COMMON NAME: San Carlos Buckwheat; San Carlos Wild Buckwheat.
SYNONYMS: *Eriogonum arizonicum* Stokes
FAMILY: Polygonaceae

AUTHOR, PLACE OF PUBLICATION: J.K. Small, Bull. Torrey Bot. Club 25: 51. 1898.

TYPE LOCALITY: San Carlos, Arizona.

TYPE SPECIMEN: HT: NY 323192. R. Ebert, September-October 1893.

TAXONOMIC UNIQUENESS: A very large genus, with 54 species recognized by Lehr (1979) occurring in Arizona. In the subgenus *Ganysma*, Kearney and Peebles (1960) and Shreve and Wiggins (1964) apparently considered (or confused) *E. capillare* as synonymous with *E. arizonicum* and so included only *E. capillare* in their treatments. Lehr included both *E. capillare* Small and *E. arizonicum* Stokes as occurring in Arizona. Reveal (1976) resolved the confusion between *E. arizonicum* and *E. capillare*, recognizing each as a distinct taxon.

Reichenbacher (1993) states that *E. capillare* is most closely related to five other species of *Eriogonum* found throughout the Western United States. Personal communication from Reveal to Reichenbacher (1993) states "this group of 6 species represents a natural group that has not yet been formally recognized of which *E. capillare* is geographically the southern- and eastern-most species in this group."

DESCRIPTION: Erect, large, bushy herbaceous annual buckwheat, 6.0-60.0 cm (2.4-24.0 in.) in height. Leafless stems, erect, 4.0-15.0 cm (1.6-6.0 in.) high, hairless to waxy-white. Last branches often slender. Leaf surfaces may be sparsely covered with long, weak but not matted hairs, or else quite hairy with long, stiff spreading hairs. Leaf margins very slightly wavy, with rounded or blunt leaf tips. Leaf bases rounded to even, as if cut off. Leaf underside slightly lighter green than top. Petiole 1-3 cm long. Flowers borne in open to dense paniculate cymes, branching in threes at first node, then branching in twos above. Flowers white with green or reddish midribs and bases, 0.8-1.2 mm long. Seeds 1.2 x 0.5 mm (0.05 x 0.02 in.) in diameter.

AIDS TO IDENTIFICATION: Distinctive in annual habit, tomentose pubescence, unsymmetrical branching and long, slender peduncles (Small 1898).

E. arizonicum differs from *E. capillare* “in having heavily tomentose leaves with undulate (not sinuate) margins; the leaves of *E. capillare* are strigose and plane. The habit of the scape is also different, that of *E. arizonicum* being stricter than that of *E. capillare*. *E. arizonicum* does not become a broad plant in the inflorescence as does *E. capillare*; and the leaves of *E. capillare* are never so heavily tomentose and so thick as those of *E. arizonicum*” (Anderson 1959).

ILLUSTRATIONS: Line drawing (USFWS).

Color photo (Heil and Herring, 1999:

<http://nmrareplants.unm.edu/reports/ericap.htm>)

Color photo of specimen (NYGB in

http://scisun.nybg.org:8890/searchdb/owa/wwwcatalogrenz.detail_list?this_id=4381777)

TOTAL RANGE: New Mexico, and Arizona: Graham, Pinal, Greenlee, Cochise, and Gila counties. In Arizona: Along the San Carlos River near Highway U.S. 70, San Carlos Apache Reservation; the east side of Dripping Springs Mountains and North of Winkelman; Aravaipa Creek watershed including Aravaipa, Bear and Martinez canyons, Hot Springs Canyon off San Pedro, and Arizona Gulch; and the vicinity to the south of Mammoth.

RANGE WITHIN ARIZONA: See “Total Range.”

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Annual

PHENOLOGY: Flowers in late summer (July-October). Germination begins in April, growth takes off after summer rains.

BIOLOGY: As an annual, the plant may only respond to certain ecological conditions which may not be present each year. Considered “late summer, early fall” species. It appears that this plant is pollinated during the day by a number of small dipterans and hymenopterans. Several plants had “needle track” scars along their scapes. These scars indicate that this plant is at least occasionally host to homopterans. No herbivory by lepidopterans, coleopterans or other insects were observed.

HABITAT: Original type locality is gravel, unstable, lack of competition. As common on hill slopes as on washes. Sandy riverbed along ephemeral portion of the San Carlos River; along sandy/gravelly washes and up lower slopes of neighboring hills. Extremely hot summers and water availability highly variable depending on the season and the year. Generally in areas of sparse vegetation and few competing species. Found near disturbed areas, roadsides and road cuts. Not necessarily near river. One in Globe about 200 yards from Pinal Creek.

In New Mexico: Rocky andesitic soils in Chihuahuan desert scrub (one location).

ELEVATION: 1,960 - 4,400 feet (598-1342 m).

EXPOSURE: Various

SUBSTRATE: Sandy and gravelly alluvium; weathered limestone gravels.

PLANT COMMUNITY: Vegetation dominated by annuals, with scattered clumps of perennials and woody shrubs including *Canotia*. Associated plants: *Hymenoclea* and *Prosopis*.

POPULATION TRENDS: Not relocated between 1968 and 1992 despite intensive search along San Carlos River near Highway U.S. 70 bridge. Population may have been lost due to heavy flooding in 1978-1979. Surveys conducted in 1992, following a heavy precipitation year, located new populations in Dripping Springs Mountains, Aravaipa watershed and near Mammoth. *E. capillare* was found to be abundant (thousands of plants) in 1992 in several of these places. Populations near San Carlos and Peridot were not relocated during a brief visit to the areas in 1992. "*E. capillare* may be more tolerant to some threats than previously assumed" (Reichenbacher 1993).

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None (USDI, FWS 1996)
 [Category 2 (USDI, FWS 1983)]
 [Category 1 (USDI, FWS 1980)]
 [PE, (USDI, FWS 1976)]
 [PTN-T (USDI, FWS 1975)]

STATE STATUS: [Salvage Restricted \(ARS, ANPL 1999\)](#)
 [Salvage Restricted (ARS, ANPL 1993)]

OTHER STATUS: Not Forest Service Sensitive (USDA, FS
 Region 3 1999)
 [Forest Service Sensitive (USDA, FS
 Region 3 1990)]

MANAGEMENT FACTORS: Small range makes this species vulnerable to any type of disturbances including: habitat degradation and modification due to historic livestock overuse; off-road vehicle traffic; natural flooding (particularly in 1978 and 1979); and habitat loss due to reservoir construction (San Carlos Reservoir).

CONSERVATION MEASURES TAKEN: Status survey conducted by Southwestern Field Biologists (Tucson) during 1992.

SUGGESTED PROJECTS: Survey appropriate habitat along the San Carlos River and other drainages over several years. Other suggested projects are to determine the longevity of the seeds once they are buried in gravel bars, road cuts and bare soils; what the concentration is and the dispersal pattern of the buried seeds; and a chromosome count should be performed for this species.

LAND MANAGEMENT/OWNERSHIP: BIA - San Carlos Reservation; BLM - Safford and Tucson Field Offices; State Land Department; Cities of Clifton and Kearny; TNC - Aravaipa Canyon Preserve; Private.

SOURCES OF FURTHER INFORMATION

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- Barb Phillips - USFS Zone Botanist, Coconino National Forest, Flagstaff, Arizona.
- Frank Reichenbacher - Southwestern Field Biologists, Tucson, Arizona.
- James Reveal - University of Maryland.

ADDITIONAL INFORMATION:

Specific epithet, *capillare*, taken from small, thin peduncle, like a capillary.

Prior to 1992, only known from two verified collections along the San Carlos River, in 1893 and 1968. The 18 October 1968 collection (ASU #15493: Pinkava, Keil and Lehto #15095) was "in sand" near the U.S. 70 bridge over the San Carlos River.

Specimens reported from the Clifton area collected in 1900 and 1935 require verification.

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 1994-08-18 (DBI)
 1994-12-08 (DBI)
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