

**Deleted from CNPS Inventory on October 23, 2012****Rare Plant Status Review: *Sarcocornia utahensis*****Proposed Deletion from Rank 2.2, G4? / S1.2**

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**Background**

*Sarcocornia utahensis* is a California Rare Plant Rank (CRPR) 2.2 taxon that has been included in the CNPS Inventory since 2004. It was included in the *Flora of North America (FNA)*, available online at

[http://www.efloras.org/florataxon.aspx?flora\\_id=1&taxon\\_id=242415618](http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=242415618)), but this source notes that California occurrences need to be confirmed. It was also included in *The Jepson Manual* (1993) as *Salicornia utahensis*, but with the caveat that the California occurrences need more study. In *The Jepson Manual, Second Edition (TJM 2)* treatment for *Salicornia pacifica* (available online at [http://ucjeps.berkeley.edu/cgi-bin/get\\_IJM.pl?tid=42666](http://ucjeps.berkeley.edu/cgi-bin/get_IJM.pl?tid=42666)), treatment author P. Ball notes that California specimens previously treated as *S. utahensis* are actually *S. pacifica*. For the *TJM 2* treatment, P. Ball (pers. comm. 2011) reviewed specimens from inland San Bernardino, Inyo, and Riverside counties and, when a determination was possible, identified them all to *S. pacifica* (Jepson Interchange 2012).

Several factors can explain past confusion over the California material. First, most of the floras that have treated these two taxa (which have variously been assigned to the genera *Salicornia* and *Sarcocornia*) have produced poor keys that do not adequately separate them. Tidestrom's (1913) original description of *S. utahensis*, for example, is of little use in identifying the plant, and several other floras have incorrectly described the seeds of *S. utahensis* (pers. comm. between P. Ball and M. Ward 2004). The best source to use for identification of *S. utahensis* and *S. pacifica* is the *Flora of North America*; *TJM 2* also offers a useful description of *S. utahensis* in the unabridged notes under *Salicornia pacifica*. The other source of confusion on these taxa stems from the need for mature seeds in order to identify the plant. Without mature seeds, a confident determination to species is usually difficult, if not impossible (P. Ball pers. comm. 2011). *Sarcocornia utahensis* generally fruits from mid-October to November, a time when few botanists are actively making collections in California's deserts. Much of the California material has been collected too early in the season to have developed mature seeds.

*Sarcocornia utahensis* can reliably be distinguished from *Sarcocornia pacifica* by comparing the mature seeds, but the number of flowering nodes on a terminal flowering spike can be helpful in identification as well. *Sarcocornia utahensis* has seeds that are mostly smooth, except for straight papillae that are found on one edge of the seed. *Sarcocornia utahensis* has slender, hooked or curved hairs that cover the entire seed (*FNA*). When seeds are not mature, a determination can sometimes be made based on the number of flowering nodes. The terminal spike on *S. pacifica* plants has between 12 and 40 nodes, while the terminal spike on *S. utahensis* generally has 12 or fewer nodes (although sometimes up to 20 nodes; *FNA*, P. Ball pers. comm. 2011). This

character, however, can sometimes be misleading as lateral spikes of *S. pacifica* are usually much shorter, and may be mistaken for the terminal spike if the actual terminal spike is damaged (P. Ball pers. comm. 2011).

There are currently two records of *S. utahensis* in the CNDDDB. Element Occurrence #1 (based on *York 2468* and *Wallace & Zigmond 174*) was collected in the Panamint Valley in Inyo County, the same site of two recent collections by D. Bell (2833 and 2918) and an old collection from 1915 (collector and herbarium unknown). The collections by D. Bell were examined by P. Ball (pers. comm. 2012), and although they did not have mature seeds, they did have at least 20 nodes per terminal spike, suggesting that they belong to *S. pacifica*. The collection from 1915 had a single seed on it, which P. Ball (pers. comm. 2012) used to identify it to *S. pacifica*. Element Occurrence #2 (based on *Sanders 2374*) was collected at Harper Dry Lake in San Bernardino County. The duplicates of this specimen have been treated as *S. virginica* (A. Sanders pers. comm. 2004, CCH 2012), a name that has been misapplied to *S. pacifica* plants in California (Jepson Interchange 2012). Several other collections from Riverside County are currently treated as *S. virginica* in the CCH (*White and Wood 12296*, *Wood 149*, *Lewis 453*, *Spencer UCR114253*, and *Sanders 25645*), but are actually *S. pacifica* (P. Ball pers. comm. 2011). The two records of *Salicornia utahensis* in the CCH (2012) should be changed *S. pacifica*, and comments recommending this change have been left in the CCH by the second author. Furthermore, the over 300 records of *S. virginica* in the CCH (2012) should be changed to *S. pacifica* in order to reflect the recent treatment by P. Ball in *TJM 2*.

Although *FNA* notes that *S. utahensis* might be expected to occur in Arizona and California, recent review of herbarium specimens shows that its geographic limit is further east in Utah, New Mexico, and the Sonoran Desert in Mexico; an Arizona record remains unconfirmed (P. Ball pers. comm. 2011). *FNA* also notes that an occurrence in eastern Oregon could be *S. utahensis*, but further review showed that it is actually *Allenrolfea occidentalis* (P. Ball pers. comm. 2011).

Based on the available information, CNPS and CNDDDB recommend deleting *Sarcocornia utahensis* from Rank 2.2 of the CNPS Inventory. All available information indicates that the California material actually belongs to *S. pacifica*. CNPS and CNDDDB encourage botanists to collect *Sarcocornia* specimens from inland California between October and November, so that more material with mature seeds becomes available. If *Sarcocornia utahensis* is later proved to be in California based on fruiting specimens, CNPS and CNDDDB will re-evaluate its status at that time.

#### **Recommended Actions:**

**CNPS:** Delete *Sarcocornia utahensis* from CNPS 2.2

**CNDDDB:** Delete *Sarcocornia utahensis* from CNDDDB G4? / S1.2

#### **Current CNPS Inventory Record:**

*Sarcocornia utahensis* (Tidestrom) A.J. Scott

Utah glasswort  
Chenopodiaceae  
Rank 2.2

Inyo, San Bernardino

Arizona, New Mexico, Texas, Utah

Lockhart (208D) 35117A3, Ballarat (302C) 36117A2

Chenopod scrub, playas / alkaline; elevation unknown.

Perennial evergreen shrub. Blooms August to September.

Known in CA from only two occurrences. Possibly threatened by hydrological alterations. On watch list in UT. Distinction of UT plants from other populations needs study. Can be confused and grow with *Allenrolfea occidentalis*. A synonym of *Salicornia utahensis* in *The Jepson Manual*. See *Botanical Journal of the Linnean Society* 75:369 (1978) for revised nomenclature, and *Flora of North America* 4:387 (2003) for species account.

(available online at <http://www.rareplants.cnps.org/detail/15.html>)

#### **Literature Cited**

Tidestrom, I. 1913. A new *Salicornia*. Proceedings of the Biological Society of Washington 26: 13-14.