

Changed from California Rare Plant Rank 3 to 1B.2 in the CNPS Inventory on August 24, 2011

Rare Plant Status Review: *Cuscuta jepsonii*

Proposed rank change from 3 to 1B.4 2

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Changes made to the original document appear in blue text.

Background

Cuscuta jepsonii is currently included in the CNPS Rare Plant Inventory as a rank 3 taxon (plants about which we need more information – a review list) since its addition in 2007. The decision to include it on list 3 was based on a lack of information available on the species. At the time of its inclusion in the CNPS Inventory, *C. jepsonii* was known only from its holotype, collected in 1892 in Lake County, growing on *Ceanothus diversifolius* as a host. Since then, five additional specimens from herbaria have been located, some of them growing on *Ceanothus prostratus*.

The discovery of the additional specimens increases the known historic range of this species to include Siskiyou, Tulare, and Trinity counties. Three of the collections were more than 100 years old, but a specimen from Mount Shasta (*McLeod s.n.* - OSU) was collected in 1954 and a specimen from the North Yolla Bolly Mountains (*Munz 16294 - RSA*) was collected in 1951. The Munz collection was of sufficient quantity and quality to allow for phylogenetic analyses to be done. The results of these analyses confirm the taxon as unique within the *Cuscuta californica* species complex, refuting its inclusion in the *Cuscuta indecora* clade and its proposed synonymy with *C. indecora* var. *indecora* (as treated in the USDA Plants Database and *The Jepson Manual, First Edition*; Costea and Stefanović 2009).

To date, the only concerted effort to rediscover this species was an extensive survey of the southern slopes of Mt. Shasta, performed in July of 2008, which produced no positive results (Costea and Stefanović 2009). Although treated as possibly extinct in *The Jepson Manual, Second Edition* (available online at: http://ucjeps.berkeley.edu/tjm2/review/treatments/convolvulaceae_all.html#21449), *Cuscuta jepsonii* may actually be extant. Its small size, the lack of exhaustive surveys in all historic localities, and the fact that it occurs on preserved lands (USFS land and wilderness areas) all point to the possibility of rediscovery (Costea and Stefanović 2009). A collection from Wawona in Yosemite National Park (*Dean Taylor – 20761b, UC1755186*) seems to fall within the circumscription of *C. jepsonii*, but needs to be annotated by a specialist and also re-collected if possible as the flowers are few and immature (Dean Taylor pers. comm. 2011).

No specific threats to *C. jepsonii* have been documented, but it should be considered vulnerable to extinction due to its specific requirements to only two species of *Ceanothus* as hosts. Most of the successful members of the genus *Cuscuta*, in contrast,

are generalists, being able to parasitize a number of hosts. Another member of the genus that is also thought to be extinct, *C. warneri*, parasitizes a single host species. Such host-specific parasites can be extremely vulnerable to reductions in host density (Costea and Stefanović 2009). A study of the effects of management practices on the density of *Ceanothus diversifolius* and *C. prostratus* could lend insight into the supposed extinction of *C. jepsonii*.

Based on the available information, CNPS and CNDDDB recommend that *Cuscuta jepsonii* be re-ranked from rank 3 to rank 1B.4 2 in the CNPS Inventory. If *C. jepsonii* is not rediscovered after numerous field surveys in subsequent years, we will reevaluate its rank at that time.

Recommended Actions

CNPS: Re-rank from CNPS rank 3 to rank 1B.4 2

CNDDDB: Retain rank of GH / SH

Revised CNPS Inventory Record:

Cuscuta jepsonii Yunck.

Jepson's dodder

Convolvulaceae

Rank 1B.4 2

Lake, [Mariposa?](#), Siskiyou, Tulare, Trinity

Elk Mountain (565C) 3912238, Mt. Shasta (698B) 4112242, Pony Buck Peak (632D)

4012331, Silver City (331B) 3611846, Van Arsdale Reservoir (566A) 3912341, [Wawona \(437C\)? 3711956](#)

North Coast coniferous forest/streambanks; elevation 1200-2300 meters.

Annual vine, parasitic; blooms July to September.

Previously on List 3. Last collected on Mt. Shasta in 1954; where recent surveys were unsuccessful. Known from fewer than ten historical occurrences. [Identification of specimen from MPA County \(437C\) needs verification.](#) Occurs on *Ceanothus diversifolius* and *Ceanothus prostratus*. A synonym of *C. indecora* var. *indecora* in *The Jepson Manual* (1993). See *Illinois Biological Monograph* 6: 149 (1921) for original description, and *SIDA* 22(1): 222-223 (2006) and *American Journal of Botany* 96(9):1744-1750 (2009) for taxonomic treatment.