

Added to California Rare Plant Rank 1B.2 on September 20, 2011

Rare Plant Status Review: *Cuscuta pacifica* var. *papillata*
Proposed New Add to California Rare Plant Rank 1B.2, G5TH 1 / SH 1
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 August 11, 2011

Changes made to the original document appear in blue text.

Background

Cuscuta pacifica var. *papillata* is an annual herbaceous parasitic vine in the Convolvulaceae (formerly Cuscutaceae) family known only from five historic collections on the coast of Mendocino County. It is included in *The Jepson Manual, Second Edition* (available online at: http://ucjeps.berkeley.edu/tjm2/review/treatments/convolvulaceae_all.html#89285), and was included in *The Jepson Manual* (1993) as *Cuscuta salina* var. *papillata*. *Cuscuta pacifica* var. *papillata* can be easily confused with two closely related taxa, *C. pacifica* var. *pacifica* and *C. salina*, but it can be distinguished by the presence of papillae on the pedicels and its affinity for dry coastal habitats. *Cuscuta pacifica* var. *pacifica* and *C. salina* have no papillae on the pedicels, and both grow in wetter habitats, such as salt marshes and inland salt flats (Costea et al. 2005). Both *C. pacifica* var. *papillata* and var. *pacifica* were formerly treated as varieties of *C. salina* (vars. *papillata* and *major*, respectively), and were recently treated as their own species based on genetic analyses (Costea et al. 2005). Material from *C. pacifica* var. *papillata* specimens was too sparse and old for DNA extraction, so it was treated based on its morphological similarity to *C. pacifica* var. *pacifica*. *Cuscuta pacifica* var. *papillata* blooms from July to October.

The Jepson Manual, Second Edition, lists the plant as occurring in interdune depression areas on the Mendocino Coast. It has been observed on species of *Gnaphalium*, *Silene*, and *Lupinus* (Smith and Wheeler 1992), and the single collection from Sonoma County was found growing on *Polycarpon tetraphyllum* and *Calystegia purpurata* ssp. *saxicola* with *Sanicula arctopoides* nearby (P. Conners pers. comm. 2011). ~~No~~The only elevation data has been recorded for *C. pacifica* var. *papillata* is approximately 7 meters (P. Conners pers. comm. 2011) ~~any of its collections, but,~~ and we estimate its maximum elevation to not exceed 50 meters based on habitat and location descriptions.

Cuscuta pacifica var. *papillata* is known from five occurrences in coastal Mendocino County, and from one occurrence of three individuals at Bodega Head in Sonoma County from 1991 (col. by P. Conners, housed in the herbarium at Bodega Marine Laboratory; annotated by M. Costea in 2011). *Cuscuta pacifica* var. *papillata* was also recently re-discovered at Point Arena in Mendocino County (R. Korhummel pers. comm. 2011). ~~All~~ Nevertheless, the majority of these its occurrences are more than 20 years old, and the taxon should be sought out in coastal areas, particularly in areas where it has occurred historically and where known host plants occur. ~~Although all occurrences are more than 20 years old, it may be premature to consider this taxon extinct as members of the genus are infrequently surveyed and collected (M. Costea pers. comm.~~

2011). There are ~~fifteen~~ **fourteen** other records of *C. pacifica* var. *papillata* from various sources (all as *C. salina* var. *papillata*, a synonym; see attached spreadsheet). All of these are misidentifications as they are either from habitats that are too wet, or too far inland (M. Costea pers. comm. 2011). Many of these misidentifications are attributable to keys in use prior to *The Jepson Manual, Second Edition* (e.g., *The Jepson Manual* 1993).

~~Threats to~~ *C. Cuscuta pacifica* var. *papillata* is possibly threatened at Manchester and Tenmile Dunes by invasive plants such as *Carpobrotus* and *Lupinus arboreus*; and possibly threatened at younger, mobile dunes by shoreline retreat (P. Baye pers. comm. 2011). ~~are unknown, however, with a limited distribution and limited number of historic occurrences.~~ It should be considered for conservation concern.

Based on the available information, CNPS and CNDDDB recommend that *Cuscuta pacifica* var. *papillata* be added to California Rare Plant Rank 1B.2.

Recommended Actions

CNPS: Add to CNPS 1B.2

CNDDDB: Add to CNDDDB G5TH 1 / SH 1

Please review the draft CNPS Inventory record below, respond Yes or No on the proposal to add this species to the Inventory and CNDDDB, and provide any edits/comments. If responding No, please provide supporting information.

Draft CNPS Inventory Record

Cuscuta pacifica Costea & M. Wright var. *papillata* (Yunck.) Costea & M. Wright
Mendocino dodder

Convolvulaceae

CA Rare Plant Rank 1B.2

Mendocino(?), **Sonoma**

Fort Bragg (569A)(?) 3912347, Gualala (537D)(?) 3812375, Mendocino (569D)(?) 3912337, Point Arena (537B)(?) 3812386, **Bodega Head (503D) 3812331**

Coastal dunes / interdune depressions; elevation 0 – 50 meters.

Annual parasitic vine. Blooms July-October

~~Known only from five historic occurrences in coastal MEN Co.~~ **Rediscovered at Point Arena in 2011 by R. Korhummel. Many historical occurrences may be extirpated; need field surveys. Possibly threatened by non-native plants and shoreline retreat. Occurs Known to occur on *Gnaphalium*, *Silene*, and *Lupinus* spp. in MEN Co.; and on *Polycarpon tetraphyllum* and *Calystegia purpurata* ssp. *saxicola* with *Sanicula arctopoides* nearby in SON Co.** Similar to *C. pacifica* var. *pacifica* and *C. salina*. See *C. salina* var. *papillata* in *The Jepson Manual* (1993). Treated as extirpated in *TJM* 2. See *Bulletin of the Torrey Botanical Club* 69(7):541-543 (1942) for original description and *Systematic Botany* 34(4):787-795 (2009) for taxonomic treatment.