

**Changed to California Rare Plant Rank 1B.2 in the CNPS Inventory on
April 10, 2012**

**Rare Plant Status Review: *Cardamine pachystigma* var. *dissectifolia*
Proposal to keep as California Rare Plant Rank 3, CNDDDB G3G5T3Q / S3**
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February 28, 2012

Changes made to the original document appear in blue text.

Cardamine pachystigma var. *dissectifolia* has been included in the CNPS Inventory since the fourth edition (1988), and is currently a California Rare Plant Rank 3 taxon. The recent taxonomic treatments in *Flora of North America* (FNA; see http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=250094617) and *The Jepson Manual, Second Edition* (TJM 2; see http://ucjeps.berkeley.edu/cgi-bin/get_cpn.pl?76465&expand=1) do not recognize this taxon, and treat it as a synonym of *Cardamine californica*. There is a high degree of morphological variation within *C. californica*, and the previous treatments do not encompass all of that variation (FNA). Rather than recognizing “poorly defined infraspecific taxa” (FNA), the FNA and TJM 2 treatments have lumped the varieties into a single species. Biosystematic and molecular studies would be needed in order to better classify the variation within *C. californica* (FNA).

Dentaria pachystigma var. *dissectifolia* was originally described by Detling (1936) and later treated as *Cardamine pachystigma* var. *dissectifolia* by Rollins (1993). It is separated from *C. pachystigma* var. *pachystigma* primarily by its greater amount of leaf dissection. *Cardamine pachystigma* var. *dissectifolia* has cauline leaves that are 1-palmately or –pinnately dissected, compared to the cauline leaves of *C. pachystigma* var. *pachystigma*, which are entire to shallowly lobed (TJM 1993, Rollins 1993). The rhizome leaves of both are usually simple, but those of var. *dissectifolia* occasionally have one or two lateral leaflets (Rollins 1993).

At the first break in the TJM (1993) key, *C. pachystigma* var. *dissectifolia* seems to be a better fit with *C. californica* than *C. pachystigma*. The key break that splits *C. pachystigma* from *C. californica* is based only on leaf dissection, with the first section of the initial couplet (1) leading to *C. pachystigma* stating that leaves are simple to shallowly lobed (rarely ±dissected). The second section of the initial couplet (1') leading to *C. californica* states that at least the lower cauline leaves are palmately or pinnately lobed or compound. The strong degree of leaf dissection in *C. pachystigma* var. *dissectifolia* best fits with the break leading to *C. californica*, not *C. pachystigma*. Habitat preferences separate the taxa, with *Cardamine californica* is more of a habitat generalist, occurring in shaded sites, canyons, and woods, while *C. pachystigma* var. *dissectifolia* is mostly restricted to serpentinite (TJM 1993, Rollins 1993).

Rather than accept the exclusion of *Cardamine pachystigma* var. *dissectifolia* from the recent treatments, CNPS and CNDDDB recommend keeping it in the Inventory as a Rank

3 taxon, as our understanding of this group's taxonomy is still poor. Since it has never been described as a variety of *C. californica*, we recommend keeping it as a variety of *C. pachystigma*, although it is possibly more closely related to *C. californica* based on leaf morphology.

Recommended Actions

CNPS: ~~Keep as~~ [Change from CNPS 3 to 1B.2](#)

CNDDDB: Keep as G3G5T3Q / S3

Revised CNPS Inventory Record

Cardamine pachystigma (Wats.) Roll. var. *dissectifolia* (Detl.) Roll.
dissected-leaved toothwort

Brassicaceae

Rank \ni [1B.2](#)

Butte, Glenn, Mendocino, Placer, Plumas, Sonoma, Tehama

The Geysers (534D) 38122G7, Greek Store (540D) 39120A5, Cascade (574B) 39121F2, Brush Creek (575A) 39121F3, Berry Creek (575B) 39121F4, Oroville Dam (575C) 39121E4, Forbestown (575D) 39121E3, Plaskett Meadows (581A) 39122F7, Hull Mountain (581C) 39122E8, Pulga (591C) 39121G4, Stirling City (592A) 39121H5, Cohasset (592B) 39121H6, Paradise West (592C) 39121G6, Paradise East (592D) 39121G5, Buck Rock (597B) 39122H8, Noble Butte (600B) 39123H6, Platina (631C) 40122C8 [\[This information will be updated and revised by the CNDDDB\]](#)

Chaparral, lower montane coniferous forest / usually serpentinite, rocky

Perennial rhizomatous herb. Blooms February to May.

~~Move to List 1B?~~ [Previously on List 3 due to lack of](#) location, rarity, and endangerment information ~~needed~~; [location information still needed](#). Threatened by [non-native plants, road and trail maintenance, vehicles, and alteration of fire regimes](#). [Many collections lack tubers, which aid in identification](#). ~~Possibly more closely related to *C. californica*; needs further study.~~—A synonym of *C. californica* in *TJM 2*. See *American Journal of Botany* 23:575 (1936) for original description, and *Harvard Papers in Botany* 4:43-48 (1993) for revised nomenclature.