

Rare Plant Status Review: *Calycadenia oppositifolia*
Roxanne Bittman (CNDDDB) and Misa Ward (CNPS)
August 16, 2004

Calycadenia oppositifolia is a List 1B species restricted to Butte County. It has been associated with a variety of habitats including cismontane woodland, chaparral, grassland, lower montane coniferous forest and meadows. *Calycadenia oppositifolia* grows on volcanic or serpentine substrates from 215 to 945 meters in elevation.

During the last revision of the CNPS *Inventory*, *Calycadenia oppositifolia* was upgraded from List 4 to List 1B based upon consensus by the local experts who participated in the review at that time. During that review, the CNPS and CNDDDB were aware of only 12 occupied 7.5' USGS quadrangles and fewer than 12 occurrences. Based upon that information, it is currently ranked as a G2 / S2.2 by CNDDDB.

Following subsequent field surveys, additional data have been received, prompting a re-evaluation of the decision to upgrade the status of this plant. The CNDDDB's preliminary mapping of the localities reported for *Calycadenia oppositifolia* indicates that there are at least 53 extant occurrences distributed within 13 quadrangles. Some of the sources report plant numbers from 1,000 to 10,000 at some of the occurrences. Most of the sources date from the 1970's and 80's, with some recent data from the late 90's to 2001.

The total number of occurrences and plants indicate placement on List 4. While previous reviewers supported placement on List 1B, many lacked specific information regarding numbers of occurrences and plants. Additionally, Oswald indicated the following in 1996: "Although apparently a Butte County endemic, this plant is too common in the foothills of the county to justify List 1B status. It also tends to form large populations where found. Suggest it remain on List 4."

Recommended Actions

CNPS: Re-rank to CNPS List 4 / RED 1-2-3

CNDDDB: Re-rank to G3 / S3.2

General: Monitor the status of *Calycadenia oppositifolia* occurrences as reported on field survey forms. If future reports indicate a decline in occurrences, re-evaluate the species for a List upgrade.

Please provide any information you have on this species, and provide your comments on this List change proposal.

Follow-up to
Rare Plant Status Review: *Calycadenia oppositifolia*
Roxanne Bittman (CNDDDB) and Misa Ward (CNPS)
August 27, 2004

During the review of the proposal to move *Calycadenia oppositifolia* from List 1B to List 4, there was no consensus among the reviewers who commented. In response to our call for review, we also received additional data for this plant collected from surveys in the Lake Oroville and north fork Feather River area in 2003. We reviewed the existing data along with these new data and found 9 new occurrences. There are over 631,000 plants within these new occurrences. In considering the distribution of all occurrences, it appears very likely that many additional occurrences could be located outside the previously surveyed areas. The distribution summary below was compiled as background information by Lawrence Janeway (2004) and is consistent with the known occurrence data available to CNPS and CNDDDB.

Label data from the 34 specimens in the herbarium at California State University, Chico (www.csuchico.edu/biol/Herb/database.html) shows that the distribution of Butte County calycadenia is a northwest to southeast trending band of Sierra Nevada and Cascade Range foothills and lower coniferous forest 52 km (32 mi) long and 23 km (14 mi) wide. The distribution is from Cohasset, about 12 km (7 mi) northeast of Chico, in the northwest to Swedes Flat, about 12 km (7 mi) southeast of Oroville, in the southeast. The elevation range is 90 m (295 ft) to 945 m (3100 ft) (note that the Inventory gives an elevation range of 215-945 m). One specimen, the oldest in the Chico State collection, from 1929, and which may have incorrect location information, represents an outlier 27 km (17 mi) north of the general distribution and at 1325 m (4350 ft) from "Butte Meadows," still within Butte County.

While *Calycadenia oppositifolia* is restricted to Butte County, it is very abundant within its range. The total number of known individuals is over 650,000 based on the data sources that include plant numbers. Upon considering the additional data, we estimate that there are 64 known occurrences separated by a ¼ mile or greater. Plants with approximately 50 occurrences or greater have usually been assigned to List 4 unless certain biological or ecological requirements are likely to reduce the viability of the taxon. *Calycadenia oppositifolia* has been associated with a variety of habitats including chaparral, oak woodland, coniferous forest, meadows and grassland. It is most abundant on serpentine soils but also occurs on soils derived from granitic and volcanic parent material. We maintain that the total number of occurrences, acreage and plants are consistent with List 4's criteria and "plants of limited distribution" description but need your input to reach consensus on the list placement.

Recommended Actions

CNPS: Re-rank to CNPS List 4 / RED 1-2-3

CNDDDB: Re-rank to G3 / S3.2

Monitor the status of *Calycadenia oppositifolia* occurrences as reported on field survey forms. If future reports indicate a decline in occurrences, re-evaluate the species for a List upgrade.