Rare Plant Status Review: *Malacothamnus jonesii* var. *jonesii*
Proposed Change from California Rare Plant Rank 4.3 to 1B.2 G4T2T3 / S2S3
Adam J. Searcy (CNPS), Ellen A. Dean (CNPS), and Katie Ferguson (CNDDB)
11 September 2024
Changes to the original record are in blue text.

Background and Taxonomy
Malacothamnus jonesii (Munz) Kearney var. *jonesii* is a perennial shrub in the Malvaceae (Morse 2023b, 2023c). It was originally described by Munz as *Malvastrum jonesii* (Munz 1925). It was later transferred to *Malacothamnus* (as *M. jonesii*) by Kearney (1951). Most recently it is treated as one of three varieties of *M. jonesii*: vars. *jonesii*, *gracilis*, and *niveus* (Morse 2023a, 2023b, 2023c). In the past, *Malacothamnus niveus* and *M. gracilis* (CRPR 1B.1) have been recognized at the species level or treated as synonyms of *M. jonesii*; they were synonymized with *M. jonesii* in the first and second editions of *The Jepson Manual* (Bates 1993, Slotta 2012) and in the *Flora of North America* (Bates 2015). In the latest *Jepson eFlora* treatment, Morse (2023d) treats *niveus* and *gracilis* as varieties of *Malacothamnus jonesii*.

Malacothamnus jonesii, M. gracilis, and *M. niveus* were added to the first edition of the CNPS Rare Plant Inventory (RPI) (Powell 1974). In 2014, *M. niveus* was reviewed and deleted from the RPI as it was considered a synonym of *M. jonesii*, which was already in the Inventory (Slakey et al. 2014a). The deletion of *M. niveus* was based partly on genetic and morphological work by Slotta (2004), which did not find support for maintaining *M. niveus* and *M. gracilis* as distinct from *M. jonesii* (Slakey et al. 2014a). While Slotta (2004, 2012) and Bates (1993, 2015) treated both *Malacothamnus gracilis* and *M. niveus* as synonyms of *M. jonesii*, *M. gracilis* was retained on the RPI based mostly on opinions from California botanists (e.g., D. Wilken and David Keil; Slakey et al. 2014b). Recent genetic and morphological analyses by Morse (2023a, 2023b) supported recognition of the three taxa and, given their apparently recent divergence and intergradation where their ranges meet, he chose to treat *Malacothamnus gracilis* and *M. niveus* as varieties of *M. jonesii* (Morse 2023b, 2023c). Most occurrences of *M. jonesii* as currently defined on the Rare Plant Inventory (Slakey et al. 2014a, 2014b; CNPS 2024) are *Malacothamnus jonesii* var. *niveus* as delimited by Morse (2023c, 2023d); *M. jonesii* var. *jonesii* as reviewed in this document is the rarer of the two taxa.

Most specimens in the *Malacothamnus jonesii* complex can be identified to variety when inflorescences are present: the calyces of *Malacothamnus jonesii* vars. *jonesii* and *gracilis* have stellate hair branches (or rays) that average less than or equal to 0.4 mm while the calyces of *M. jonesii* var. *niveus* have stellate hair branches that average greater than or equal to 0.5 mm (Morse 2023d). Inflorescence structure differentiates vars. *jonesii* and *gracilis*: "*Malacothamnus jonesii* var. *jonesii* is distinguished from *M. jonesii* var. *gracilis* by having a spike-like rather than a generally panicle-like inflorescence" (Morse 2023c). *Malacothamnus jonesii* var. *jonesii* also flowers earlier, from March to May, while var. *gracilis* begins flowering in May (Morse 2023d). Intermediates between *Malacothamnus jonesii* var. *jonesii* and *M. jonesii* var. *niveus* occur in west-central San Luis Obispo County (e.g., near Atascadero, *Herman AH_20190613*) (Morse 2023b, Morse 2024 pers. comm.). The species is named for Marcus E. Jones who collected the type specimen (Munz 1925).

Ecology
Malacothamnus jonesii var. *jonesii* occurs in chaparral and cismontane woodland at elevations of 175–505 m (570–1,660 ft) (Morse 2023c, Calflora 2024, CCH2 2024, CNDDB 2024b, iNaturalist 2024, Morse 2024 pers. comm.). Like most *Malacothamnus*, this taxon likely responds to burning; however, none of the occurrence records note evidence of recent fire (Morse 2023c, Calflora 2024, CCH2 2024, CNDDB 2024b, iNaturalist 2024, Morse 2024 pers. comm.). Commonly noted associates include *Adenostoma fasciculatum*, *Artemisia californica*, *Centaurea* spp., *Eriogonum fasciculatum*, *Quercus* spp., and *Salvia* spp. (Calflora 2024, CCH2 2024, CNDDB 2024b, Morse 2024 pers. comm.). Flowering occurs from March to June with peak bloom in April and May (Morse 2023c, CCH2 2024, CNDDB 2024b, Calflora 2024, iNaturalist 2024, Morse 2024 pers. comm.).

Distribution and Abundance
Malacothamnus jonesii var. *jonesii* is endemic to California, where it is known from approximately 31 occurrences in Monterey and San Luis Obispo counties (Morse 2023b, 2023c; Calflora 2024, CCH2 2024, CNDDB 2024b, iNaturalist 2024, Morse 2024 pers. comm.). [Data received from CNPS Vegetation and Rare Plant Staff added approximately 9 occurrences from under-surveyed areas on Camp Roberts near the center of the taxon's distribution (Nelson & Buck-Diaz 2024 pers. comm.)]. Since it has been treated at the species level in the RPI for 50 years, this taxon's distribution should be considered fairly well documented. Thirteen of the occurrences are recent, having been observed in the last 20 years, and 18 occurrences are historical (Morse 2023b, 2023c; Calflora 2024, CCH2 2024, CNDDB 2024b, iNaturalist 2024, Morse 2024 pers. comm.). Twenty-nine of the occurrences are on lands of unknown and presumably private ownership; one occurrence is of mixed ownership including the City of Atascadero, Atascadero Land Preservation Society, and unknown/private land; and one occurrence is on land owned by the Monterey County Water Resources Agency. [The nine occurrences noted above are on the Camp Roberts military installation]. The number of plants has been recorded at six occurrences, with estimates ranging from one to ten plants (3 occurrences), 11 to 50 (2), and 150 (1), while abundance at two sites was qualitatively described as "locally common" (Morse 2023b, 2023c; Calflora 2024, CCH2 2024, CNDDB 2024b, iNaturalist 2024, Morse 2024 pers. comm.). Population sizes at the remaining 23 sites are unknown. Morse (2023c) reported the extent of occurrence and area of occupancy (summed area of occupied 2x2 km grid squares) as 586 km^2 and 100 km^2, respectively. Surveys for *Malacothamnus jonesii* var. *jonesii* should ideally be conducted from one to five years following a fire (Morse 2024 pers. comm.). Negative survey results in areas without recent fires should not be misconstrued as evidence of absence, as short-lived fire followers such as *Malacothamnus* may remain dormant in the seed bank for decades until a fire occurs, and the presence of this seed bank is as important to the species' life history as mature plants.

Twenty-three collection or observation records were excluded from this analysis. Three records of *Malacothamnus jonesii* var. *jonesii* lack locality data or the locations are too vague to accurately georeference (CCH2 2024). One collection is from cultivated material at the Pacific Grove Museum of Natural History (Morse 2024 pers. comm.). Two collections or observations are intermediates between *Malacothamnus jonesii* vars. *jonesii* and *niveus* (CCH2 2024, Morse 2024 pers. comm.). Fifteen collections or observations are not identified to variety, most of which were collected or observed in vegetative condition (Calflora 2024, CCH2 2024, iNaturalist

2024). One record, *Hardham 2484*, is a misidentified duplicate of *Malacothamnus discombobulatus* (CCH2 2024). A collection of *Malacothamnus jonesii* attributed to Yolo County (*Lemmon s.n.*) is either misidentified or the location is incorrect (CCH2 2024). These 23 records are included in pink highlighted rows at the end of the location spreadsheet.

Status and Threats
Malacothamnus jonesii var. *jonesii* has a NatureServe ranking of G4/TNR (NatureServe 2024). As currently circumscribed on the Rare Plant Inventory, *Malacothamnus jonesii* (CRPR 4.3) includes both *M. jonesii* vars. *jonesii* and *niveus* and the number of occurrences is not tracked or updated by the CNDDB (Slakey et al. 2014a, CNDDB 2024, CNPS 2024). As delimited by Morse (2023d), var. *jonesii* is rarer than var. *niveus*; *M. jonesii* var. *niveus* is being concurrently reviewed for addition to CRPR 4.3. *Malacothamnus jonesii* var. *gracilis* (CRPR 1B.1) has been on the Rare Plant Inventory (as *Malacothamnus gracilis*) since 1974 and the new varietal combination published by Morse resulted only in a non-substantive name change (Morse 2023b, Dean et al. 2024, CNPS 2024).

No threats have been documented at most of the *Malacothamnus jonesii* var. *jonesii* occurrences (Morse 2023c). One unprocessed CNDDB form lists nonnative plants and construction of a log boom and access road but notes that the work plan was altered to avoid the population (CNDDB 2024b). While all the occurrences are potentially threatened by fire suppression or the alteration of fire regimes, increasing fire frequency could be beneficial in some cases (Morse 2024 pers. comm.). Any potential benefits of increased fire frequency would require both successful germination amidst potentially increasing non-native competitors and survival to reproductive age to produce enough seed to replenish the seed bank (Morse 2024 pers. comm.). [Forum comment from Keir Morse: "I would also add under threats the potential for hybridization if other taxa from outside of its range are planted within its range, especially other varieties of *M. jonesii*."]

Summary
Based on the available information, CNPS and CNDDB propose changing the name of *Malacothamnus jonesii* to *Malacothamnus jonesii* var. *jonesii* and changing its status from California Rare Plant Rank 4.3 to CRPR 1B.2 in the CNPS Inventory. If knowledge on the distribution, threats, or rarity status of *Malacothamnus jonesii* var. *jonesii* changes in the future, we may re-evaluate its status at that time.

Recommended Actions
CNPS: Change *Malacothamnus jonesii* var. *jonesii* to CRPR 1B.2
CNDDB: Change *Malacothamnus jonesii* var. *jonesii* to G4T2T3 / S2S3

Draft CNPS Inventory Record (changes to the original record are in green text)
Malacothamnus jonesii (Munz) Kearn. var. *jonesii*
Jones's bushmallow
Malvaceae
USDA Plants Symbol: ~~MAJO~~
CRPR ~~4.3~~ 1B.2
Counties: Monterey, San Luis Obispo~~, Santa Barbara~~

States: California
Quad name (code): Adelaida (3512067), Atascadero (3512046), Bradley (3512077), ~~Branch Mtn. (3512021), California Valley (3512031), Camatta Canyon (3512053), Camatta Ranch (3512043), Chimineas Ranch (3511928), Cholame Hills (3512074), Creston (3512055), Jolon (3512182), La Panza (3512032), Miranda Pine Mtn. (3512011), Nipomo (3512014), Oceano (3512015), Orchard Peak (3512062),~~ Paso Robles (3512066), ~~Pozo Summit (3512033), Ranchito Canyon (3512075), Santa Margarita (3512045), Stockdale Mountain (3512085), Tar Spring Ridge (3512024), Taylor Canyon (3511918),~~ Templeton (3512056), Tierra Redonda Mountain (3512078), Valleton (3512086), Williams Hill (3512181), ~~Wilson Corner (3512044)~~, York Mountain (3512057)
General Habitat: Chaparral, Cismontane woodland
Elevation: ~~160–1075 m (525–3525 feet)~~ 175–505 m (570–1,660 ft)
Life form: Perennial deciduous shrub
Blooms: ~~(Mar) Apr–Oct.~~ (Mar) Apr–May (Jun).
Threats: Potentially threatened by nonnative plants, alteration of fire regimes, development, and hybridization with other *Malacothamnus* taxa.
Taxonomy: Formerly included ~~Includes~~ *M. niveus*. *Malacothamnus niveus* and *M. gracilis* are now treated as varieties of *M. jonesii*. Var. *jonesii* is differentiated from vars. *gracilis* and *niveus* by the combination of calyx hair branch length (less than or equal to 0.4 mm) and spike-like inflorescences. Intergrades with *M. jonesii* var. *niveus* near Atascadero. ~~Treated differently here than in *TJM* (1993) and *TJM 2*, which include both *M. gracilis* and *M. niveus* as synonyms. See *Bulletin of the Southern California Academy of Sciences* 24(3):88 (1925) for original description and *Leaflets of Western Botany* 6(6):135 (1951) for taxonomic treatment.~~
Selected References: ~~CRPR List Change on 2014-07-16~~
- CNPS Status Review: Proposed change from CRPR 4.3 to 1B.2, G4T2T3 / S2S3 (2024)
- Original Description: *Bulletin of the Southern California Academy of Sciences* 24(3):88 (1925)
- Taxonomic Treatment: *Malacothamnus 3* (2023) [https://doi.org/10.6084/m9.figshare.23937066.v1]
- Species Account: *Malacothamnus 3* (2023) [https://doi.org/10.6084/m9.figshare.23937066.v1]

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