Draft key to the *Malacothamnus* (Malvaceae) of the Sierra Nevada Mountains and Mojave Desert mountains of California including adjacent areas of the Central Valley and Mojave Desert

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Comments, corrections, and questions welcome at kmorse@rsabg.org

This key is based on dry specimen measurements. Estimated measurements for fresh material is included in [square brackets].

1. Corollas drying open after flowering; west side of the Sierras..... ***M. fremontii***
1‘ Corollas drying closed after flowering; west or east sides of the Sierras..... **2**

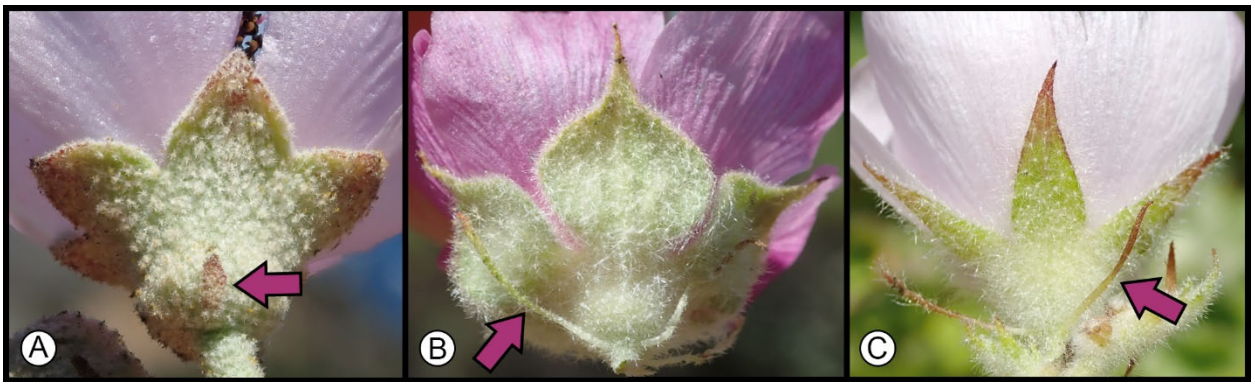
2. Calyx bracts 6–14(18) [7–17[21.5]] mm long, ≥0.6x calyx; flower buds clearly pointed; most stellate trichomes without stipes; leaves and inflorescence often somewhat sticky due to glandular trichomes; leaves truncate to cordate at base; purportedly on the west side of the Sierras north of Springville. ..... ***M. marrubioides***
2’ Calyx bracts 2.5–8 [3–9.5] mm long, ≤0.8x calyx; flower buds generally rounded to slightly pointed; many stellate trichomes with stipes; leaves and inflorescence generally not sticky; leaves generally cordate at base, rarely truncate to oblique; east side of the Sierras and west side south of Springville. ..... ***M. orbiculatus***

Notes:

- The flower drying character is how they dry on the plant after flowering. See figure below.
- Calyx bracts are a whorl of three bracts beneath each calyx. See figure below.
- Glandular trichomes are simple, multicellular, and often with exudate at the tip. The exudate from these trichomes is sometimes seen on the stellate trichomes.
- Stellate trichomes are nonglandular and branched from a central point. Each branch is called a ray. When stalked, the stalk is called a stipe.
- Stem trichomes are best measured from the internode just below the inflorescence.
- Plants documented along Hwy 190 between Springville and Ponderosa appear to be intermediate between *M. fremontii* and *M. orbiculatus*.
- In this region, *M. marrubioides* is only known from a single collection from near Lake Millerton, the location of which is questionable as it is out of the range of all other known specimens of this species.
- See photos of all taxa on Calphotos website: https://calphotos.berkeley.edu/flora/sci-M.html

M. fremontii flower drying open

M. orbiculatus flowers drying closed



Fig_calyx_and_calyx_bracts. Some calyx and calyx bract variation. Arrows point to calyx bracts.