

**Draft Key to the *Malacothamnus* (Malvaceae) of
San Diego, Orange, and Riverside Counties, CA and Baja CA, Mexico
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Comments, corrections, and questions welcome at kmorse@rsabg.org

1. Inflorescence a narrow to wide panicle.2
- 1' Inflorescence spike-like, occasionally with axillary spikes near the base of the inflorescence ..4

2. Lobe width at widest 1–6x width at lobe base; calyx lobes 3–9.5 [3.5–11.5] mm wide, lobe width at widest 1–5.7x width at base; Baja California.*M. foliosus*²
- 2' Lobe width at widest 1–1.5x width at lobe base; calyx lobes 2–4 [2.5–5] mm wide; California.3

3. Stellate trichomes on calyx with most rays > 0.2 mm; introduced near the city of San Diego. *M. niveus*
- 3' Stellate trichomes on calyx with most rays ≤ 0.2 mm; native north of San Diego County and possibly near its northern border, planted elsewhere in San Diego County.*M. fasciculatus var. laxiflorus*²

4. Many glandular trichomes on both the stem and abaxial surface of calyx ≥ 0.3 mm; abaxial surface of calyx tube densely covered in stellate trichomes. *M. densiflorus var. viscidus*
- 4' Most glandular trichomes on stem ≤ 0.1 mm and all ≤ 0.3 mm, all glandular trichomes on abaxial surface of calyx ≤ 0.4 mm; abaxial surface of calyx tube densely to sparsely covered in stellate trichomes.5

5. Abaxial surface of calyx tube generally sparsely covered in stellate trichomes and/or simple to bifurcate nonglandular trichomes; calyx stellate and bifurcate trichome rays ≤ 4 mm (mean per plant 0.5–2.3 mm).*M. densiflorus var. densiflorus*
- 5' Abaxial surface of calyx tube densely covered in stellate trichomes; calyx stellate trichome rays ≤ 2 mm (mean per plant 0.1–0.6 mm).6

6. Calyx lobes 4.5–13.5 [5.5–16] mm long and 3–9.5 [3.5–11] mm wide; stem stellate trichome rays ≤ 1.4 mm (mean per plant 0.2–0.8 mm); many stem stellate trichomes with stipes, stipes ≤ 1.1 mm; Baja California.*M. foliosus*²
- 6' Calyx lobes 2.5–12 [3–14.5] mm long and 2–5 [2.5–6] mm wide; stem stellate trichome rays ≤ 1.0 mm (mean per plant ranges from 0.1–0.4 mm); most stem stellate trichomes without stipes, stipes ≤ 0.4 mm; Baja California and California.7

7. Calyx lobes 3–12 [3.5–14.5] mm long; calyx bracts 3–13 [3.5–15.5] mm long; stipular bracts (0.5)1–8(12) [[0.5]1–9.5[14.5]] mm wide; desert transition zone of San Diego County extending southward to the Sierra de San Pedro Mártir in Baja California. ...*M. enigmaticus*
- 7' Calyx lobes 2.5–5 [3–6] mm long; calyx bracts 1–5 [1–6] mm long; stipular bracts 0.5–2.5(4) [0.5–3[5]] mm wide; elsewhere.8

8. Longest stellate trichome rays on stem below inflorescence ≤ 0.4 mm (mean per plant 0.1–0.2 mm), longest stellate trichome rays on calyx ≤ 0.5 mm (mean per plant 0.1–0.2 mm); near the northern boundary of San Diego County and northward, some planted in San Diego County..... *M. fasciculatus* var. *laxiflorus*²
- 8' Longest stellate trichome rays on stem below inflorescence and on calyx ≥ 0.3 mm (mean per plant 0.1–0.4 mm); near the northern boundary of San Diego County and southward into Baja California..... *M. fasciculatus* var. *fasciculatus*

Notes:

- Primary measurements in the key are for dry specimens. Estimated measurements for fresh material is included in [square brackets].
- Calyx bracts are a whorl of three bracts beneath each calyx. See figure below.
- Stipular bracts are stipule-like bracts between the calyx bracts and leaves.
- 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.
- A few species may also have simple or bifurcate nonglandular trichomes, presumably a reduced form of the stellate trichomes. The simple nonglandular trichomes are unicellular and easily differentiated from the glandular trichomes.
- Stem trichomes are best measured from the internode just below the inflorescence.
- Superscript indicates number of places this taxon comes out in the key if greater than 1
- See photos of all taxa on Calphotos website:
<https://calphotos.berkeley.edu/flora/sci-M.html>



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