

**Draft key to the *Malacothamnus* (Malvaceae) of
Monterey and San Luis Obispo Counties, CA
by Keir Morse
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Comments, corrections, and questions welcome at kmorse@rsabg.org

1. Infl capitate to subcapitate - 2

1'. Infl spike-like to panicle-like - 4

2. Many rays of stellate trichomes on stem 1-3mm; many simple glandular trichomes 0.3-1.4 mm, generally distinct at 20x magnification, occasionally sparse and difficult to detect; leaves often rancid smelling; surface of stem and calyx lobes generally easily visible through trichomes to the naked eye - *M. lucianus*

2'. Most rays of stellate trichomes on stem <1mm; glandular trichomes ≤ 0.1 mm, often only apparent as a resinous dot, much smaller than and often obscured by adjacent stellate trichomes; surface of stem and calyx lobes often hidden by dense trichomes - 3

3. Adaxial leaf surface densely stellate hairy in mature leaves, centers of stellate trichomes average ≤ 0.25 mm apart, rays of adjacent trichomes generally overlapping across entire leaf surface; inflorescence with stipular bracts linear to lanceolate and unlobed, widest stipular bracts $\leq 6.5(9)$ mm wide - *M. palmeri* s.s.

3'. Adaxial leaf surface glabrous to sparsely stellate hairy in mature leaves, if more densely hairy, centers of stellate trichomes average ≥ 0.5 mm apart, rays of adjacent trichomes not overlapping across entire leaf surface; inflorescence generally with lobed stipular bracts that are about as wide as long, widest stipular bracts $\geq 7(5)$ mm wide measured below lobes - *M. involucratus*²

4. Calyx bracts ≥ 1 mm wide - 5

4' Calyx bracts < 1mm wide - 7

5. Calyx lobes generally much wider above base; calyx lobes subcordate, ovate, or round with abruptly acuminate apex - *M. aboriginum*

5' Calyx lobes generally widest at base or not much wider above base; calyx lobes triangular to ovate - 6

6. Adaxial leaf surface densely stellate hairy - *M. abbottii*²

6'. Adaxial leaf surface glabrous to sparsely stellate hairy in mature leaves (see 3') - *M. involucratus*²

7. Mature leaves \pm green on both surfaces, \pm thinly white to yellowish stellate, more densely so abaxially; leaf base generally cordate - 8
- 7'. Mature leaves pale green, blueish, or grayish; densely white stellate hairy on both surfaces; If leaf base cordate, rays of stellate hairs too short to be distinguished by the naked eye - 9
8. Calyx bracts usually no more than 1/3 length of calyx; many stellate trichomes clearly stalked - *M. davidsonii*
- 8'. Calyx bracts usually \pm 1/2 length of calyx (if calyx bracts 1/3 length of calyx or shorter, then few stellate trichomes clearly stalked) - *M. orbiculatus*
9. Calyx appearing fluffy, stellate trichome rays on calyx average ≥ 0.5 mm, generally distinct to the naked eye - *M. niveus*
- 9'. Calyx not appearing fluffy, stellate trichome rays on calyx average ≤ 0.4 mm, generally not distinct to the naked eye - 10
10. Infl spike-like; flowering March-May - *M. jonesii* s.s.
- 10' Infl generally panicle-like, if spike-like, population includes panicle-like infls; flowering May and later - 11
11. Calyx bracts and often flower buds reddish; leaves not lobed to obscurely lobed *M. gracilis*
11. Flower buds not reddish and calyx bracts rarely reddish; leaves not lobed to clearly lobed12
12. Calyx bracts ≤ 3.5 mm long and ≤ 0.5 mm wide; leaves generally clearly lobed with smooth surface - *M. fasciculatus* var. *nuttallii*
- 12'. Calyx bracts ≥ 3.5 mm long and ≥ 0.5 mm wide; leaves not lobed to clearly lobed with rugose surface - *M. abbottii*²

Notes:

- Measurements from dry specimens
- See Calphotos for images of each species
- Calyx bracts are a whorl of three bracts beneath each calyx.
- Stipular bracts are modified stipules between the calyx bracts and leaves.
- I'm a little dubious about couplet 7, but it is a start. Check Calphotos to verify. They just look different.

- Superscript indicates number of places this taxon comes out in the key if greater than 1
- *M. jonesii* s.l. (*M. jonesii* s.s., *M. niveus*, and *M. gracilis*) aren't always clear and there are apparent morphological intermediates in geographically intermediate areas. This group still needs work.

M. abbottii

- Only known to naturally occur in Monterey County, but a CalTrans planting exists along Hwy 166 in SLO County

M. aboriginum

- Not known south of Monterey County

M. davidsonii

- Occurs in both Monterey and SLO Counties

M. fasciculatus var. *nutallii*

- Outside of cultivation, only known in SLO County from a single location just north of Santa Maria. Common in Santa Barbara County.

M. gracilis

- Only known from SLO County
- Possible intermediates with *M. jonesii* and *M. niveus*

M. involucratum

- Formerly *M. palmeri* var. *involucratum*. Occurs in Monterey County. One collection in SLO County from Cuesta Pass is clearly *M. involucratum*, but the location information is questionable.

M. jonesii s.s.

- Occurs in both Monterey and SLO Counties
- Possible intermediates with *M. gracilis* and *M. niveus*

M. lucianus

- Formerly *M. palmeri* var. *lucianus*. Occurs only in Monterey County

M. niveus

- Occurs in both Monterey and SLO Counties
- Possible intermediates with *M. jonesii* and *M. gracilis*

M. orbiculatus

- Only known in SLO county from near the south and east boundaries

M. palmeri s.s.

- Formerly *M. palmeri* var. *palmeri*. Occurs only in San Luis Obispo County