

5. *Malvástrum* Gray

Plants annual or perennial, herbaceous or somewhat woody, sparsely to densely stellate-pubescent or hispid. Lvs. ovate to orbicular, crenate or palmately cleft. Fls. axillary or in terminal bracted infl. Calyx subtended by an involucre of narrow bractlets. Sepals somewhat united at base. Petals white to purple, or yellow. Stamens many, united into a tube. Carpels few, indehiscent, compressed or somewhat turgid, rugose on the sides, sometimes tuberculate on the back, 1-ovuled, not sharply differentiated apically and basally. A genus of perhaps 50 spp. of Am. and S. Afr. (A name derived from *malva*, mallow.)

Lvs. crenate; petals 2-3 cm. long, each with a dark spot 1. *M. rotundifolium*
Lvs. 5-7-lobed; petals not spotted.

Petals 5-6 mm. long; calyx 3-5 mm. long 2. *M. exile*
Petals 10-25 mm. long; calyx 7-12 mm. long.

The petals white to pale lavender, 10-13 mm. long; calyx-lobes tapering gradually to a slender tip 3. *M. kernense*

The petals purplish, 12-30 mm. long; calyx-lobes abruptly acuminate 4. *M. Parryi*

1. *M. rotundifolium* Gray. [*Eremalche* r. Greene. *Sphaeralcea* r. Jeps.] DESERT FIVESPOR. Erect annual, 1-4(-6) dm. high, simple or branched, the stems and petioles hispid with long mostly simple hairs; lvs. remote, suborbicular, cordate, coarsely crenate, 2-5 cm. wide, on petioles 2-10 cm. long; fls. in racemose corymbs; bractlets filiform, 6-10 mm. long; calyx 10-15 mm. long, stellate-hispid, the lobes ovate, acuminate; petals 2-3 cm. long, rose-pink to lilac, drying purplish, each with conspicuous dark spot, the corolla subglobose when fresh; carpels many, thin, flat, black at maturity, reticulate near the edges, 2.5-3 mm. high.—Frequent in washes and on mesas, below 3800 ft.; Creosote Bush Scrub; Mojave and Colo. deserts; Ariz., Nev. March-May.

2. *M. exile* Gray. [*Malveopsis* e. Kuntze. *Eremalche* e. Greene. *Sphaeralcea* e. Jeps.] Annual, decumbent or prostrate, with several stems from base, these 1-4 dm. long, stellate-pubescent; lvs. suborbicular, 8-18 mm. wide, palmately 3-5-cleft with rounded lobes; petioles slender, 1-3.5 cm. long; bractlets slender, 3-4 mm. long; calyx 3-5 mm. long; petals whitish to pink or lavender, 5-6 mm. long; carpels not more than 15, rather turgid, transversely wrinkled, grayish, 1-1.5 mm. long.—Common in dry open places, below 5000 ft.; Creosote Bush Scrub; Mojave and Colo. deserts; to Utah, Ariz.; has been reported from near Riverside. March-May.

3. *M. kernense* (C. B. Wolf) Munz. [*Eremalche* k. C. B. Wolf.] Erect or prostrate annual, usually branched from base, the stems 1-2 dm. long, with scattered stellate hairs; lvs. suborbicular, 1-3 cm. long, 3-5-cleft, the lobes crenate; petioles 1-4 cm. long; bractlets filiform, 3-4 mm. long; calyx 8-10 mm. long, the lobes 2-3 mm. wide, tapering gradually to a slender tip; petals whitish to lavender, 10-13 mm. long; carpels 8-13, grayish or light brown, rather turgid, transversely corrugate on back, 2 mm. long.—Dry open clay flats, 600-900 ft.; Shadscale Scrub; Temblor V., near McKittrick, Kern Co. April-May.

4. *M. Parryi* Greene. [*Eremalche* P. Greene. *Sphaeralcea* P. Jeps.] Annual, with several stems from near the base, or ± simple, erect or ascending, subglabrous to somewhat stellate-pubescent; lvs. twice-lobed or -cleft, 2-4 cm. wide; petioles 1-5 cm. long, slender; fls. pedicelled, in loose terminal corymbs; bractlets linear, 9-11 mm. long; calyx loosely stellate-pubescent, 10-14 mm. long, the lobes ovate, 4-5 mm. wide, abruptly acuminate; petals pinkish lavender to purplish, darker on drying, mostly 1.5-3 cm. long; carpels turgid, ca. 1.5 mm. long, rugose-reticulate, somewhat brownish.—Dry flats and hills, below 4500 ft.; Pinyon-Juniper Wd., Foothill Wd., V. Grassland; largely about the San Joaquin V., n. Ventura Co. to Alameda Co. March-May.

6. *Malacothamnus* Greene

Shrubs, sometimes suffrutescent, with long usually flexuous branches, ± densely stellate-tomentose or -pubescent. Lvs. petioled, ± evidently and palmately 3-5-lobed. Fls. pink or lavender, 1 to several at a node, and in axillary ± capitate clusters forming elongate interrupted spikes or in open panicles. Calyx subtended by an involucre of bractlets.

Sepals 5, united at base. Petals 5, distinct, but often joined at base to the stamen-tube. Stamens many, the fls. united into a tube. Carpels several, completely deliscent (splitting into halves at maturity), mucous, unappendaged, not rugose, 1-ovuled. A genus of 20 spp. of sw. N. Am.

(Kearney, T. H., The genus *Malacothamnus*. Leaflet W. Bot. 6: 113-140, 1951.)

- A. Fls. in dense terminal heads, these with conspicuous invols. of membranous or leafy bracts ca. as long as calyces. Monterey and San Luis Obispo cos. 1. *M. Palmeri*
- AA. Fls. not in dense heads, or, if so, these not conspicuously involucre or terminal.
 - B. Calyx-lobes mostly 4-8 mm. wide at base; bractlets subtending the calyx broadly lanceolate to ovate; lvs. $\pm$ cordate at base. San Benito, Fresno, and Monterey cos. 2. *M. aboriginum*
 - BB. Calyx-lobes mostly not more than 3 mm. wide at base; bractlets narrowly lanceolate to filiform.
 - C. Calyx conspicuously and densely white-lanate, the hairs $\pm$ concealing the calyx-lobes.
 - D. Stems closely white-tomentose with very short hairs; lvs. mostly truncate or sub-cuneate at base, finely crenate-dentate; bractlets ca. as long as calyx-tube.
 - E. Infl. open-paniculate, the lower branches usually few-fl., the fls. with long pedicels. San Luis Obispo Co. 3. *M. nitens*
 - EE. Infl. thyrsoid-glomerate, the lower branches short, with many subsessile fls. Tehama Co. to Yolo Co. 4. *M. Helleri*
 - DD. Stems more loosely pubescent with longer hairs; lvs. mostly cordate at base, coarsely crenate; bractlets ca. as long as calyx.
 - E. Lvs. thick, velvety-tomentose. Bordering Cent. V. 5. *M. Fremontii*
 - EE. Lvs. rather thin, pubescent (but not densely so). S. Mojave Desert 6. *M. orbiculatus*
 - CC. Calyx not conspicuously and densely lanate, the pubescence sparser or looser or shorter, not concealing the calyx-lobes, or if the calyx sometimes rather woolly, then the infl. very narrow and few-fl.
 - D. Hairs of calyx long, simple to few-branched (the arms to 2 mm. or more long).
 - E. Stems conspicuously shaggy-tomentose with grayish hairs; lvs. angularly 3-5-lobed, bicolored, soft-tomentose beneath. San Clemente Id. 7. *M. clementinus*
 - EE. Stems closely pubescent with yellowish hairs; lvs. simple or with rounded lobes, not strongly bicolored or tomentose beneath. Mainland 8. *M. densiflorus*
 - DD. Hairs of calyx short (to 1 mm. long) and many-armed.
 - E. Infl. open-paniculate, rather few-fl., with long slender rather flexuous ascending-spreading branches.
 - F. Calyx 9-11 mm. long, the lobes 2-3 times as long as the tube; bractlets broadly subulate, thick, whitish. Monterey Co. 9. *M. Abbottii*
 - FF. Calyx 6-7 mm. long, the lobes less than twice the tube; bractlets narrowly subulate, thin, dark. San Luis Obispo Co. 10. *M. gracilis*
 - EE. Infl. contracted, or if open, the branches strictly ascending.
 - F. Stems loosely pubescent.
 - G. Lvs. deeply 3-5-lobed; petioles and lf.-veins very stout; bractlets not more than $\frac{1}{2}$ the calyx. San Fernando V. 11. *M. Davidsonii*
 - GG. Lvs. simple or shallowly lobed; petioles and lf.-veins slender; bractlets usually at least half as long as calyx.
 - H. The lvs. cordate at base; calyx-lobes ovate, 3-7 mm. long. Desert borders, Inyo Co. to San Bernardino Co. 6. *M. orbiculatus*
 - HH. The lvs. mostly truncate at base.
 - I. Calyx 9-12 mm. long, the lobes lance-ovate, 6-8 mm. long. Fresno Co. to San Gabriel Mts. 12. *M. marruboides*
 - II. Calyx 5-8 mm. long, the lobes deltoid-ovate, ca. 3 mm. long. San Mateo, Santa Clara, and Santa Cruz cos. 13. *M. arcuatus*
 - FF. Stems appressed-pubescent, or if pubescence loose, then the calyx-lobes abruptly acuminate.
 - G. Calyx 4-6 mm. long.
 - H. Stems striate-angular; lvs. deeply lobed; petals 10-12 mm. long. Mendocino Co. 14. *M. mendocinensis*
 - HH. Stems not striate-angular; lvs. shallowly lobed; petals 13-15 mm. long. Contra Costa Co. to Santa Clara Co. 15. *M. Hallii*
 - GG. Calyx 6-12 mm. long.
 - H. Calyx-lobes abruptly acuminate 8. *M. densiflorus* var. *viscidus*
 - HH. Calyx-lobes acutish.
 - I. Lvs. thickish, truncate or cuneate at base, not or scarcely lobed.
 - J. Infl. subracemose, few-fl., the fls. 1-3 at each node; pubescence whitish. San Luis Obispo Co. 16. *M. Jonesii*

JJ. Infl. open-paniculate, the fls. 3 or more at a node; pubescence yellowish. San Bernardino

II. Lvs. thin, mostly cordate at base. S. Calif. 17. *M. Parishii*

18. *M. fasciculatus*

1. *M. Pálmeri* (Wats.) Greene. [*Malvastrum* P. Wats. *Sphaeralcea* P. Jeps.] Suffrutescent, 1.5–2.5 m. tall, 2–4 m. across, with coarse leafy stems; lf.-blades broadly ovate to almost round, 2–7 cm. wide, slightly longer, dark green, stellate-pubescent above and beneath, $\pm$ 3-lobed, crenate-dentate; petioles 1–3 cm. long; fls. sessile in a terminal headlike cluster or with 1–2 axillary clusters below, these clusters dense, 3–5 cm. wide, with leafy $\pm$ lobed oblong-lanceolate bracts 1.5–2 cm. long; bractlets linear to ovate; calyx 14–18 mm. long, the lobes lance-ovate, hirsute, 12–14 mm. long, acuminate; petals rose, 20–30 mm. long, hairy near base; carpels densely stellate, ca. 4 mm. high; seed brown, ca. 2.5 mm. long.—Dry rocky slopes, below 1200 ft.; Chaparral; foothills of Santa Lucia Mts., San Luis Obispo Co. May–July.

Var. *involucratus* (Rob.) Kear. [*Malvastrum* i. Rob. *M. P.* var. i. McMinn.] Lvs. soon glabrous above; outer involucral bracts not lobed, oblong to broadly ovate; calyx 10–14 mm. long; petals 14–20 mm. long.—Foothill Wd.; Jolon, near King City, and Carmel V., Monterey Co. May–Aug. Plants from Arroyo Seco road at 3600 ft., intermediate between the sp. and the var., have been described as var. *lucianus* Kear.

2. *M. aboriginum* (Rob.) Greene. [*Malvastrum* a. Rob. *Sphaeralcea* a. Jeps.] Coarse, woody below, 1–3 m. tall, densely felted-tomentose on stems and twigs; lf.-blades gray-green, broadly ovate, 3–6 cm. long, 3–5-lobed, crenate-dentate, cordate at base, stellate-pubescent; petioles 1–3.5 cm. long; fls. sessile in headlike clusters in upper axils, forming an elongate $\pm$ naked infl.; bractlets 3, ovate, 6–8 mm. long; calyx strongly angled in bud, 8–10 mm. long, the lobes 4–6 mm. long and somewhat wider; petals rose, 12–14 mm. long; carpels ca. 3 mm. high; seed brownish, ca. 1.5 mm. long.—Dry hills, 700–1600 ft.; Foothill Wd.; away from the coast, S. Coast Range, San Benito, Fresno, and Monterey cos. May–Sept.

3. *M. niveus* (Eastw.) Kear. [*Malvastrum* n. Eastw. *M. Fremontii* var. n. McMinn. *M. fragrans* Eastw., not Harv. & Gray.] Erect, 1–2 m. tall, loosely branched, densely and closely white-tomentose with very short hairs and slender branches; lvs. rounded-deltoid, scarcely or obscurely lobed, $\pm$ truncate at base, crenate to crenate-dentate, 1.5–4 cm. wide, ca. as long, white-tomentose, on petioles 7–14 mm. long; infl. open-paniculate, the lower branches slender, usually elongate, few-fl., many of the fls. long-pedicelled; bractlets linear, dark, 3–4 mm. long; calyx 7–10 mm. long, white-woolly, the lobes deltoid, evident, longer than wide; petals 15–20 mm. long, lavender-pink; carpels 2.5–3 mm. high, deeply incised, broadly stalked; seeds papillate-stellulate.—At 1200–2600 ft.; Chaparral; San Luis Obispo Co. May–July.

4. *M. Héleri* (Eastw.) Kear. [*Malvastrum* H. Eastw. *M. Fremontii* var. H. McMinn. *Sphaeralcea* F. var. *exfibulosa* Jeps.] Erect shrub, 1–1.5 m. high, closely and densely white-tomentose; lvs. ovate to suborbicular, conspicuously veined, crenate, truncate at base, 2–6 cm. long and wide, whitish stellate-pubescent beneath, greener above; petioles 1–4 cm. long; infl. thyrsoid-glomerate, or the lower branches elongate, many-fl., the fls. subsessile; bractlets linear, dark, 4–5 mm. long; calyx 5–7 mm. long, white-woolly, the lobes ovate, obtuse, obscured by the wool; petals 10–12 mm. long, rose; carpels 2.5 mm. high, shallowly incised; seeds obscurely stellulate.—Gravelly washes, inner N. Coast Ranges, Tehama Co. to Yolo Co. June–Aug.

5. *M. Fremontii* (Torr. ex Gray) Greene. [*Malvastrum* F. Torr. ex Gray. *Sphaeralcea* F. Jeps.] Woody below, erect, 1–2 m. high, densely white-tomentose; lf.-blades thick, round-ovate, scarcely to plainly but shallowly 5–7-lobed, crenate, 3–10 cm. long, soft-tomentose on both surfaces, rounded to somewhat cordate at base; petioles 1–3.5 cm. long; fls. pink or rose, in headlike clusters in the axils on upper branchlets; bractlets 3, linear-filiform, dark, ca. as long as calyx; calyx subglobose in bud, densely white-woolly, ca. 7 mm. long, the segms. hidden except for the short pointed tips; petals 12–20 mm. long; carpels glabrous except for the summit, ca. 3 mm. high; seeds 1.5 mm. long, dark gray; $n = 17$ (Webber, 1936).—Occasional, on dry open slopes, especially on burns, 200–2500 ft.; Foothill Wd., Chaparral; w. base of Sierra Nevada, Tulare Co. to Amador Co., inner N. Coast Ranges, Tehama Co. and Contra Costa Co. April–Sept.

Ssp. *cercóphorus* (Rob.) Munz. [*Malvastrum* F. var. *c.* Rob. *Sphaeralcea* F. var. *c.* Jeps. *Malvastrum* Howellii Eastw. and var. *cordatum* Eastw. *Malacothamnus* H. Kearn.] Calyx ca. 10 mm. long, the segms. attenuate-caudate.—Below 3500 ft., inner Coast Ranges, Contra Costa to Santa Clara cos., foothills of Sierra Nevada, Madera and Calaveras cos. May–Sept.

6. *M. orbiculatus* (Greene) Greene. [*Malvastrum* o. Greene. *M. Fremontii* var. o. Jtn. *Sphaeralcea* o. Jeps.] Suffrutescent, 5–20 dm. high, with mostly stout simple branches densely soft-stellate-tomentose; lvs. rounded, thinnish, 3–7 cm. wide, coarsely crenate, sometimes 3–5-lobed, greener above than beneath; petioles mostly 1–2 cm. long; fls. rose, few in sessile axillary clusters forming long interrupted spicate panicles; bractlets linear, shorter than calyx; calyx ± hispid-stellate to densely lanate, 7–10 mm. long, the segms. ovate, 3–7 mm. long, acute to acuminate; petals 12–16 mm. long; carpels pubescent on upper half, 2–2.5 mm. high; seeds 1.5 mm. long; $n = 17$ (Webber, 1936).—Dry stony slopes, 3000–8500 ft.; Pinyon-Juniper Wd., Yellow Pine F.; borders of Mojave Desert from e. slope of Sierra Nevada, Inyo Co. to n. slope of San Bernardino Mts. June–Oct.

7. *M. clementinus* (M. & J.) Kearn. [*Malvastrum* c. M. & J. *Sphaeralcea orbiculata* var. *c.* Jeps.] Rounded subshrub to 1 m. tall, with numerous shaggy, stellate-tomentose branches; lf.-blades 3–5-lobed, deeply cordate at base, broadly ovate, 3–5 cm. wide, greenish above, whiter and soft-stellate beneath; petioles 1–1.5 cm. long; fls. many, subsessile and densely glomerate in uppermost axils forming interrupted spikes 1–2 dm. long; bractlets filiform, almost as long as calyx; calyx 7–8 mm. high, loosely stellate-tomentose, the lobes broadly lanceolate, acute, 4 mm. long; petals pink, ca. 13 mm. long, oblong-obovate; carpels stellate-tomentose at summit, 2.5–3 mm. high; seeds almost 2 mm. long.—Rocky canyon-walls; Coastal Sage Scrub; Lemon Tank, San Clemente Id. April.

8. *M. densiflorus* (Wats.) Greene. [*Malvastrum* d. Wats. *Sphaeralcea* d. Jeps.] Erect, 1–2 m. tall, with yellowish close scurfy pubescence; lvs. rounded-ovate, simple or shallowly rounded-lobed, truncate to cordate at base, 2–5 cm. wide, green, sparsely pubescent beneath; petioles 5–20 mm. long; infl. an interrupted spike of dense sessile heads, ± glandular; bractlets filiform, viscid, 7–16 mm. long; calyx 10–14 mm. long, loosely hirsute with long subsimple or stellate hairs or subglabrous, the lobes lance-ovate, 5–12 mm. long; petals rose-pink, 10–15 mm. long; carpels 2.2–2.8 mm. high, subsessile, shallowly incised.—Dry slopes, mostly 1000–4000 ft.; Chaparral; Santa Ana Mts. to Palm Springs (Riverside Co.) and Cuyamaca Mts. (San Diego Co.). April–July.

Var. *viscidus* (Abrams) Kearn. [*Malvastrum* v. Abrams. *M. d.* var. *v.* Estes. *Sphaeralcea* d. var. *v.* Jeps. *Malvastrum marruboides* var. *v.* McMinn.] Bractlets 4–6 mm. long; calyx-lobes 3–7 mm. long, broadly ovate; $n = 17$ (Webber, 1936).—San Diego Co.; L. Calif. March–June.

9. *M. Ábbottii* (Eastw.) Kearn. [*Malvastrum* A. Eastw.] Erect shrub, 1–2 m. tall, white-tomentose; lf.-blades broadly ovate, 2–5 cm. long, truncate at base, gray and soft-tomentose, crenate; petioles 1–2.5 cm. long; infl. a panicle with ascending branches; bractlets linear-lanceolate, thick, whitish, 5 mm. long; calyx 9–12 mm. long, finely white-tomentose, the lobes 5–6 mm. long, long-acuminate; petals rose, 18–20 mm. long.—Among willows, Salinas R., Monterey Co. June–Oct.

10. *M. grácilis* (Eastw.) Kearn. [*Malvastrum* g. Eastw.] Erect slender shrub, 1–2 m. tall; twigs very slender, whitish with dense stellate tomentum; lf.-blades ovate, often 3-lobed, 1–5 cm. long, truncate or rounded at base, crenate, densely pale-tomentose; petioles 0.5–2 cm. long; infl. paniculate, with very slender branches; bractlets linear, purplish, 3–4 mm. long; calyx 6–7 mm. long, reddish-purple, somewhat glandular and tomentose, the lobes gradually acuminate; petals rose, 12–15 mm. long; carpels stellate-tomentose at apex, 3–4 mm. high.—Rocky dry slopes; Chaparral; San Luis Obispo Co. June–Oct.

11. *M. Davidsonii* (Rob.) Greene. [*Malvastrum* D. Rob. *Sphaeralcea* D. Jeps.] Erect coarse shrub, 2–5 m. high; branches stout, densely shaggy with stellate tomentum; lf.-blades thick, round-cordate, 2.5–10 cm. wide, 5-angled or shallowly 3–5-lobed, densely stellate-tomentose; petioles 1.5–3 cm. long; fls. numerous, in short racemes forming panicles 2.5–4.5 dm. long; bractlets 3 mm. long; calyx densely stellate-tomentose, 5–8 mm. long, the lobes ovate, acute, 2–4 mm. long, obscured by the tomentum; petals

pink or rose, 12–15 mm. long; carpels tomentulose at summit, ca. 3 mm. high, incised; seeds dark; $n = 17$ (Webber, 1936).—Sandy washes and flats, 1000–1200 ft.; Coastal Sage Scrub; San Fernando V., Los Angeles Co. June–Sept.

12. *M. marrubioïdes* (Dur. & Hilg.) Greene. [*Malvastrum m.* Dur. & Hilg. *M. gabrielense* M. & J. *Sphaeralcea densiflora* var. *g.* Jeps.] Shrubby below, 6–20 dm. high, with erect slender branches and close stellate pubescence; lvs. rounded, obscurely lobed, pale green, 1.5–4.5 cm. wide; petioles 1–2.5 cm. long; fls. few in glomerules at upper axils, forming a spicate or subpaniculate scarcely glandular infl.; bractlets subulate, 7–12 mm. long, lanceolate; calyx 10–12 mm. long, the lobes ovate-lanceolate, 6–8 mm. long, densely stellate-tomentose; petals pink, 16–18 mm. long; carpels stellate-pubescent at apex, 2.5–3.5 mm. high, shallowly incised.—Dry stony slopes, 1500–7000 ft.; Chaparral, Foothill Wd.; Sierra Nevada foothills (Fresno Co.); mts. at w. end of Mojave Desert, Mt. Pinos s. to San Gabriel Mts. June–Aug.

13. *M. arcuatus* (Greene) Greene. [*Malveopsis a.* Greene. *Malvastrum a.* Rob. *Sphaeralcea a.* Arthur.] Erect, woody below, 6–18 dm. tall, the stems densely white-tomentose; lf.-blades thickish, rugose, ovate to rhombic-ovate, 2–5 cm. long, not or slightly lobed, crenate-dentate, greenish above, densely canescent-tomentose beneath; petioles 5–30 mm. long; fls. in dense headlike clusters sessile in upper axils and forming interrupted spikes; bractlets linear, slightly shorter than calyx; calyx whitish or somewhat rusty, soft-tomentose, 6–8 mm. long, the lobes deltoid-ovate, ca. 3 mm. long, acute; petals rose, 12–18 mm. long; carpels tomentose above, 3 mm. long; seeds grayish, 1.5 mm. long.—Brushy canyons, below 1000 ft.; Chaparral; e. slope of Coast Range, San Mateo, Santa Clara and Santa Cruz cos. April–July.

14. *M. mendocinensis* (Eastw.) Kear. [*Malvastrum m.* Eastw.] Shrub 1–2 m. high, erect, white-tomentose; branches slender, striate-angular; lvs. ovate, obtusely 3–5-lobed, cordate at base, stellate-sabrid above, stellate-tomentose and paler beneath, 5–7 cm. long; petioles 2–3 cm. long; infl. contracted, the branches short; bractlets ca. 1 mm. long; calyx 4–6 mm. long, with short, obtuse, deltoid lobes; petals rose, ca. 12 mm. long; carpels ca. 2.2 mm. high, stellate-tomentose, sessile.—Open banks at ca. 700 ft.; N. Oak Wd.; 5 mi. sw. of Ukiah, Mendocino Co. May–June.

15. *M. Hállii* (Eastw.) Kear. [*Malvastrum H.* Eastw. *Sphaeralcea fasciculata* var. *Elmeri* Jeps.] Shrub 1–2 m. tall, with close, short-rayed pubescence; lvs. suborbicular, shallowly 3–5-lobed, usually subcordate, 1.5–6 cm. wide, greenish and subglabrous above, whiter and more densely stellate beneath; petioles 1–2.5 cm. long; infl. contracted, the branches usually short; calyx ca. 5 mm. long, the lobes deltoid, acute, 2 mm. long; petals rose, 13–15 mm. long; carpels 2.2–3 mm. long, subsessile.—Stony slopes; Chaparral; inner Coast Range, Mt. Diablo, Contra Costa Co., Pacheco Pass, etc., Santa Clara Co. May–July.

16. *M. Jonesii* (Munz) Kear. [*Malvastrum J.* Munz. *Sphaeralcea fasciculata* var. *J.* Jeps. *Malvastrum Dudleyi* Eastw.] Erect shrub, 6–12 dm. high, with many slender branches, covered with dense soft whitish stellate tomentum; lf.-blades suborbicular, firm, not or obscurely 3–5-lobed, coarsely and irregularly crenate-dentate, 1–2.5 cm. long, rounded to cuneate at base, pale and closely velvety-pubescent; petioles 1–2 cm. long; fls. solitary or 2–3 in upper axils, forming an interrupted spicate infl.; bractlets subulate, 3–4 mm. long; calyx 6–8 mm. long, loosely stellate-tomentose, the lobes ovate, acute, ca. 5 mm. long; petals pink or rose, 12–14 mm. long; carpels 3 mm. high, tomentose at apex; seeds dark.—Dry slopes; Chaparral, Foothill Wd.; near Paso Robles and Santa Lucia Mts., San Luis Obispo Co. May–July.

17. *M. Parishii* (Eastw.) Kear. [*Malvastrum P.* Eastw.] Erect shrub, white-tomentose; lvs. thin, rhombic-ovate, distinctly but shallowly 3-lobed, cuneate at base, crenate, ca. 5 cm. long, 4 cm. wide, green above, densely white-tomentose beneath; petioles ca. 1 cm. long; infl. open-paniculate with elongate lower branches and usually 3 or more fls. per node; bractlets filiform, ca. 2 mm. long; calyx 8–9 mm. long, the lobes ovate, acute, nerved, 5 mm. long; petals rose, ca. 12 mm. long; carpels 3 mm. high, conspicuously stalked.—Near San Bernardino, 1000–1500 ft. June–July.

18. *M. fasciculatus* (Nutt.) Greene. [*Malva f.* Nutt. ex T. & G. *Malveopsis f.* Kuntze. *Malvastrum f.* Greene. *M. Thurberi* Gray. *Sphaeralcea f.* Arthur.] Shrub 1–5 m. tall, with long slender wandlike branches covered with short soft tomentum; lf.-blades round-ovate, mostly shallowly lobed, 2–4(–6) cm. wide, densely canescent beneath,

less so and somewhat greener above, crenate or crenate-dentate; petioles 0.5–1 cm. long; fls. in sessile or nearly sessile headlike clusters forming an interrupted spicate infl.; bractlets linear, 2–4 mm. long; calyx 6–8 mm. long, stellate-pubescent, the lobes deltoid, acute to obtuse; petals pink, 12–18 mm. long; carpels stellate-pubescent at summit, 2.5–3 mm. high; seeds ca. 1.5 mm. long; $n = 17$ (Webber, 1936).—Common on dry slopes and canyon-sides, below 2500 ft.; Chaparral, Coastal Sage Scrub; s. Riverside Co. to L. Calif. April–July.

KEY TO VARIETIES

Infl. of interrupted spike of headlike clusters, or with lower branches sometimes to 6 cm. long; calyx loosely pubescent with long hairs.

Lvs. small, to 4 cm. long, not conspicuously bicolorous. S. Riverside Co. to L. Calif. . . . *M. fasciculatus*

Lvs. larger, to 7 cm. long, quite conspicuously bicolorous. Catalina Id. . . . *var. catalinensis*

Infl. open-paniculate, the lower branches often long and loosely fld.; calyx closely pubescent.

Lvs. essentially concolorous, 2–4 cm. wide. Coastal Santa Barbara and Ventura cos. . . . *var. Nuttallii*

Lvs. bicolorous, paler beneath.

Lf.-blades 3–7 cm. wide; panicle many-branched, the ultimate divisions rigid, not racemose. Santa Cruz Id. . . . *var. nesioticus*

Lf.-blades 2–4 cm. wide; panicle few-branched, the ultimate divisions elongate, commonly racemose. San Bernardino Co. to Riverside, Orange and Ventura cos. . . . *var. laxiflorus*

Var. laxiflorus (Gray) Kear. [*Malvastrum Thurberi* var. *l.* Gray. *M. splendidum* Kell. *Malveopsis* s. Kuntze. *Malacothamnus* f. s. Abrams. *Malvastrum* f. var. *l.* M. & J. *Sphaeralcea* f. var. *l.* Jeps.] Lvs. somewhat bicolorous; infl. branched and paniculate; carpels 2–3 mm. high; $n = 17$ (Webber, 1936).—Below 5500 ft., Orange and n. Riverside cos. to Cajon Pass, San Bernardino Co., to s. Ventura Co. May–Aug.

Var. Nuttallii (Abrams) Kear. [*Malacothamnus* N. Abrams. *Malvastrum* N. Davids. & Mox. *Sphaeralcea* f. var. *N.* Jeps. *Malvastrum* f. var. *N.* McMinn.] Lvs. closely hoary-stellate on both surfaces; panicle elongate, few-branched; carpels 3–5 mm. high; $n = 17$ (Webber, 1936).—Chaparral; Ventura and Santa Barbara cos. June–Aug.

Var. nesioticus (Rob.) Kear. [*Malvastrum* n. Rob. M. f. var. *n.* McMinn. *Malacothamnus* n. Abrams. *Sphaeralcea* n. Jeps. S. f. var. *n.* Jeps.] Lvs. thinnish, 5–7 cm. long, cordate, subglabrate above, deeply lobed; panicles open, terminal, quite leafless; calyx finely canescent; carpels ca. 4 mm. high.—Steep canyons, Santa Cruz Id. June–July.

Var. catalinensis (Eastw.) Kear. [*Malvastrum* c. Eastw. M. f. var. *c.* McMinn.] Lvs. thin, subglabrous above, deeply lobed, 5–7 cm. long; fls. in congested clusters in short-branched panicle; calyx stellate-tomentose; carpels 3.2–3.8 mm. high.—Catalina Id. Closely matched by plants from Santa Monica Mts. May–Aug.

7. *Modiola* Moench

Low diffuse perennial herb. Lvs. rounded, coarsely crenate to palmately incised. Fls. small, purplish to orange, solitary in axils, each with involucre of 3 bractlets. Calyx in ours enlarging in fr., the 5 lobes ovate, hirsute, acute. Petals obovate. Fr. depressed, of 14–25 thin-coriaceous reniform carpels, each septate between the 2 seeds. Small genus of Am. and Afr. (Latin, *modiolus*, the nave of a wheel, because of the fr.)

1. *M. caroliniana* (L.) G. Don. [*Malva* c. L.] Stems spreading, pubescent, 3–6 dm. long; lvs. 2–5 cm. wide, on slender petioles; calyx 5–6 mm. long at anthesis, slightly enlarged in fr.; petals dull red, 5–8 mm. long; carpels hirsute, ca. 4 mm. high, beaked at outer edge of top.—Rather widely natur. in Calif. at lower elevs.; native of trop. Am. April–Sept.

8. *Lavatera* L. TREE-MALLOW

Ours erect to arborescent herbs or shrubs. Lvs. angled or lobed, maplelike in ours, long-petioled. Fls. showy, axillary or in terminal racemes, each with a 3-lobed involucre in ours. Calyx 5-lobed. Petals reflexed after anthesis, clawed, emarginate or truncate. Fr. depressed, the carpels in ours 5–8, smooth, 1-seeded. Ca. 25 spp. of Medit. region to Asia, Australia, Canary Ids., ids. off Calif. and L. Calif. (*Lavater*, two Swiss brothers, of the time of Tournefort.)