



Flora of North America

Leucophyllum (Scrophulariaceae)
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X. LEUCOPHYLLUM Humboldt & Bonpland, Pl. Aequinoct. 2: 95, plate 109. 1812 *
Barometer-bush, silver-leaf, cenizo [Greek, *leukos*, white, and *phyllon*, leaf]

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Shrubs; stolons absent. **Stems** erect, densely silvery-gray tomentose with conical to cylindrical dendritic hairs, sometimes appressed stellate, weathering and reduced with age, [glabrous and sessile-glandular]. **Leaves** persistent, cauline, alternate to opposite or subopposite, not succulent; stipular lines absent; petiole usually present; blade margins entire. **Inflorescences** axillary, flowers solitary; bracts absent. **Pedicels** present; bracteoles absent. **Flowers** bisexual; sepals 5, calyx campanulate, lobes linear to oblong-lanceolate or oblong; petals 5, corolla purplish to violet or blue, rarely white, spotted with pink or yellow, throats usually spotted, slightly bilaterally symmetric, usually bilabiate, funnelform-campanulate, abaxial lobes 3, adaxial lobes 2, adaxial lip with lobes slightly smaller than abaxial; stamens usually 4, adnate to proximal 1/4--1/3 of corolla tube, didynamous, filaments glabrous or pilose near base, staminodes 0; ovary 2-locular, placentation axile; stigma 2-lobed. **Capsules** symmetric, dehiscent first septicidally to near base, then loculicidally halfway to base. **Seeds** 15--25, yellowish brown, irregularly ovoid, (minutely reticulate), not winged. $x = 17$.

Species 15 (3 in the flora); sc United States, Mexico.

Suggestions that *Eremogeton* and *Leucophyllum* (tribe Leucophylleae Miers) should be positioned within Myoporaceae have been made by earlier workers (for example, L. D. Flyr 1970b; C. J. Niezgodna and A. S. Tomb 1975; E. E. Karrfalt and Tomb 1983). Molecular studies indicate that Leucophylleae and Myoporaceae are most closely related to each other and both are maintained within Scrophulariaceae (R. G. Olmstead et al. 2001; B. Oxelman et al. 2005). Perspectives on the potential relationship between *Leucophyllum* and Myoporaceae, including clarification of the base chromosome numbers, have been provided by J. Henrickson (2004).

SELECTED REFERENCES Henrickson, J. 2004. A new species of *Leucophyllum* (Scrophulariaceae) and comments on the relationships of the genus. *Sida* 21: 1--10. Henrickson, J. and L. D. Flyr. 1985. Systematics of *Leucophyllum* and *Eremogeton* (Scrophulariaceae). *Sida* 11: 107--172.

1. Leaf surfaces silvery-gray abaxially, greenish adaxially with reduced vestiture; plants 5--20(---30) dm; sc Texas to Trans-Pecos Texas 1. *Leucophyllum frutescens*
1. Leaf surfaces equally silvery-gray; plants 2--10(---15) dm; Trans-Pecos Texas.
 2. Vestiture of young stems and leaves densely and evenly silvery-stellate with closely and tightly appressed, densely overlapping stellate hairs; plants often appearing thorny
..... 2. *Leucophyllum minus*
 2. Vestiture of young stems and leaves irregularly canescent-tomentose with conical to cylindrical dendritic hairs uneven in height; plants not becoming thorny..... 3. *Leucophyllum candidum*

1. **Leucophyllum frutescens** (Berlandier) I. M. Johnston, Contr. Gray Herb. 70: 89. 1924 * Texas barometer-bush or silver-leaf, purple sage F W

Terania frutescens Berlandier, Mem. Comis. Limites, 4. 1832

Plants erect, not intricately branched, rounded, 5–20(–30) dm, not becoming thorny. **Young stems** densely canescent-tomentose with conical to cylindrical dendritic hairs uneven in height. **Leaves** alternate, rarely opposite; petiole 1–2 mm; blade obovate to oblong-obovate or obovate-orbicular, 10–25(–35) mm, not folded along midrib or reflexed at petiole, base cuneate, midvein and major lateral veins raised abaxially, surfaces bicolorous (silvery-gray abaxially, greenish adaxially with reduced vestiture), densely canescent-tomentose with conical to cylindrical dendritic hairs uneven in height. **Flowers:** calyx lobes oblong-lanceolate, 3–5 mm; corolla rose-lavender to light violet, pink, and rose-pink, rarely white, campanulate, without distinctly narrowed tube, 18–26 mm. $2n = 34$.

Flowering (Mar–)May–Sep(–Oct). Rocky and gravelly hillsides, talus, arroyos, low ridges, flats, roadcuts, clay dunes, often associated with *Larrea tridentata*, *Agave lechuguilla*, *Dasyilirion* subsp., *Acacia* subsp. in scrub, chaparral, thorn scrub, riparian communities; 10–1200 m; Tex.; Mexico (Coahuila, Nuevo León, Tamaulipas).

Leucophyllum frutescens is widely cultivated, with horticultural varieties differing in habit, vestiture, and flower color. The plants are cold hardy and can withstand moderate frosts. As in most or all *Leucophyllum* species, plants usually flower in response to rain.

2. **Leucophyllum minus** A. Gray in W. H. Emory, Rep. U.S. Mex. Bound. 2(1): 115. 1859 * Big Bend barometer-bush or silver-leaf

Plants erect, intricately branched, compact, 2–8(–15) dm, often appearing thorny because of persistent dead branches. **Young stems** densely and evenly silvery-stellate with closely and tightly appressed, densely overlapping hairs (appearing stellate but actually compressed-dendritic with radii extending from several levels but typically with one series of radii at top). **Leaves** alternate, crowded in axillary fascicles or on compressed lateral shoots; petiole (0.5–)1–3(–4) mm; blade oblanceolate or spatulate to obovate-orbicular, (2–)3–10(–16) mm, not folded along midrib or reflexed at petiole, base cuneate-attenuate, veins not prominently raised abaxially, surfaces equally silvery-gray, densely and evenly silvery-stellate with closely and tightly appressed, densely overlapping stellate hairs. **Flowers:** calyx lobes linear to oblong-lanceolate, (2–)3–4.5 mm; corolla lavender to purple or blue, rarely white, campanulate, abruptly ampliate distally to narrow tube 1–3 mm, (12–)18–25 mm. $2n = 34$.

Flowering (May–)Jun–Aug(–Nov). Limestone ridges, slopes, and ledges, low gravel and clayey hills, sandy hills, gravelly washes; 900–1700 m; N.Mex., Tex.; Mexico (Chihuahua, Coahuila).

3. **Leucophyllum candidum** I. M. Johnston, J. Arnold Arbor. 22: 120. 1941 * Brewster County barometer-bush

Leucophyllum violaceum Pennell

Plants rounded to erect, not intricately branched, 3–10(–15) dm, not becoming thorny. **Young stems** irregularly canescent-tomentose with conical to cylindrical dendritic hairs uneven in height. **Leaves** alternate to subopposite, often opposite near stem apices; petiole 1–3(–6) mm; blade mostly broadly obovate to obovate-orbicular, reniform, or ovate, 6–10(–16) mm, not folded along midrib or reflexed at petiole, base rounded to cuneate, veins not prominently raised abaxially, surfaces densely and equally silvery-gray tomentose, irregularly canescent-tomentose with conical to cylindrical dendritic hairs uneven in height. **Flowers:** calyx lobes oblong to oblong-lanceolate, 2.5–5(–6) mm; corolla dark to light violet-purple, campanulate, without distinctly narrowed tube, (10–)12–22(–25) mm. $2n = 68$.

Flowering (Apr–)May–Sep. Limestone hills, canyons, steep slopes, gravelly slopes, flats, roadsides; 600–1200 m; Tex.; Mexico (Chihuahua, Coahuila, Durango, Zacatecas).

Leucophyllum candidum is known in the flora area only from Brewster County.