

Scutellaria lateriflora L.

Standardized Common Name: Skullcap

Other Common Names: Blue Pimpernel, Helmet Flower, Mad-dog Skullcap, Scullcap

Family: Lamiaceae (Labiatae)

Taxonomy: *Scutellaria* includes about 360 species of herbs and small shrubs, found almost worldwide. About 240 of these, including *S. lateriflora*, are placed within subgenus *Scutellaria*, section *Scutellaria*, which is probably not a natural group and has been divided (by Paton) into numerous informal species groups. Several of these are native to eastern North America; morphological diversity among species is great enough to allow most to be identified without difficulty.

Description: Perennial, rhizomatous herb. Stems 30–60(–80) cm high, quadrangular, varying along stem from purplish-brown to yellowish-green; lower part unbranched and glabrous, upper part with opposite branches and bearing small appressed hairs and sometimes glands. Leaves opposite, petiolate with petioles 0.5–3 cm long, narrowly ovate to ovate-oblong, 3–7 cm long, 2–3.5 cm broad; base acute to rounded-truncate or subcordate; apex acute; margins serrate to somewhat crenate or dentate; upper surface dark; lower surface pale, pubescent with tiny appressed hairs along veins and many glandular hairs; venation pinnate, reticulate. Inflorescences racemose, 3–8 cm long, mostly lateral, sometimes terminal, one-sided, with opposite solitary flowers subtended by small leaflike bracts. Calyx at flowering 1.5–2.5 mm long, campanulate-bilabiate, toothed, membranous, pale green, bearing small hairs and occasionally glands; upper lip folds to form scutellum, at maturity expanding to enclose fruits. Corolla 5–9 mm long, tubular-bilabiate, blue or rarely white or pink, slightly pubescent at least outside; lateral lobes more closely joined to upper lip than to lower; lower lip larger, upper lip hooded and concealing anthers. Stamens 4, in 2 pairs. Ovary deeply 4-lobed; fruit 4 nutlets, ca. 1 mm long, pale brown, ellipsoidal, wrinkled, enclosed within “helmet-shaped” calyx.

Parts in Commerce: Whole herb at flowering (stems, leaves, flowers)

Identification:

- Stems quadrangular, mostly 1–4 mm in diameter, glabrous to sparsely pubescent or glandular above, not densely pubescent
- Leaves 3–7 cm long, with toothed margins
- All leaves petiolate
- Leaf bases variable, but not strongly cordate or asymmetrical
- Upper leaf surface glabrous or nearly so
- Lower leaf surface sparsely pubescent with short appressed hairs, especially along veins, and bearing numerous multicellular, short-stalked glands
- Inflorescences racemose, mostly lateral, with flowers all borne to one side in pairs
- Bracts beneath flowers leaflike, but smaller than leaves
- Upper lip of calyx with a conspicuous projection (scutellum)
- Corolla bilabiate, with lower lip longer than upper lip; upper lip hooded, the stamens mostly or entirely contained within the corolla
- Corolla <10 mm long
- Corolla bluish (rarely white or pink), slightly pubescent
- Stamens 4, in 2 pairs, the filament bases attached to the corolla tube (above the midpoint in the upper pair); filaments often ciliate
- Fruits, if present, consist of 4 nutlets enclosed within an enlarged asymmetrical calyx

Adulterants: The unusual shapes of the calyx and corolla easily identify flowering material as belonging to the genus *Scutellaria*. American skullcaps that have appeared in commerce include *S. ovata* Hill, *S. incana* Spreng., and *S. galericulata* L. (also known as *S. epilobiifolia* A. Hamilton., its common names of Common Skullcap or Hooded Willow-herb, the latter shared by *S. lateriflora*, may have led to confusion). The above points distinguish *S. lateriflora* from these and all other potentially confused species, including *S. churchilliana* Fern., which is thought to be a hybrid involving *S. laterifolia*. If the material is sufficiently intact, the observation of one-sided lateral racemes and small (<10 mm) flowers is virtually diagnostic.

Skullcap has been found to be adulterated with *Teucrium canadense* L. (American Germander), which is a serious safety issue as germander has been shown to be hepatotoxic. *T. canadense* is also known as Pink Skullcap, increas-

ing the likelihood of confusion with *Scutellaria*. However, it can be easily distinguished by several features:

- Upper lip of corolla is split and its lobes fused with the prominent lower lip so corolla appears to have no upper lip
- Stamens protrude from cleft in upper side of corolla
- Calyx symmetrical, not forming a scutellum
- Leaf bases sometimes asymmetrical
- Both leaf surfaces and stem pubescent; lower leaves sometimes densely pubescent with non-glandular hairs

References:

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Fernald ML. *Gray's Manual of Botany*, 8th ed. New York: American Book Company; 1950:1217–1223.

Paton A. A global taxonomic investigation of *Scutellaria* (Labiatae). *Kew Bull.* 1990;45:399–450.

Youngken HW. *Text-Book of Pharmacognosy*, 5th ed. Philadelphia, PA: The Blakiston Company; 1943:737–739.

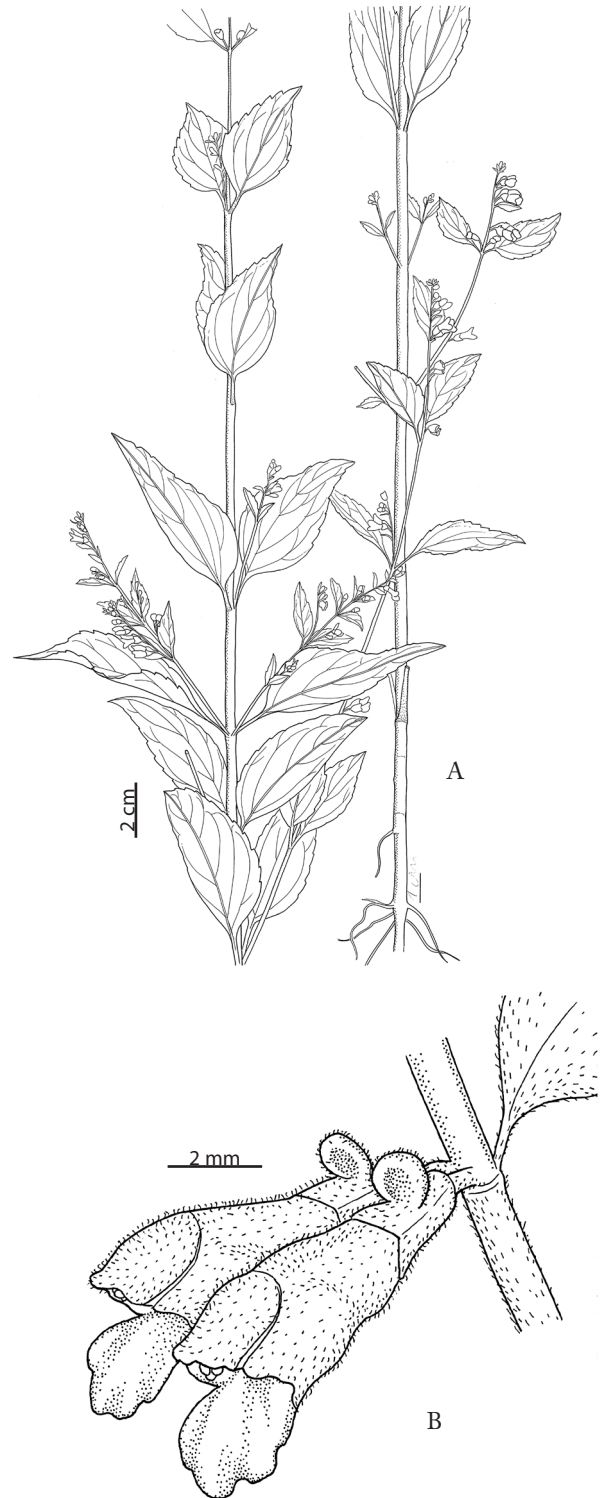


Figure 65: a–b, *Scutellaria lateriflora* habit and flower.

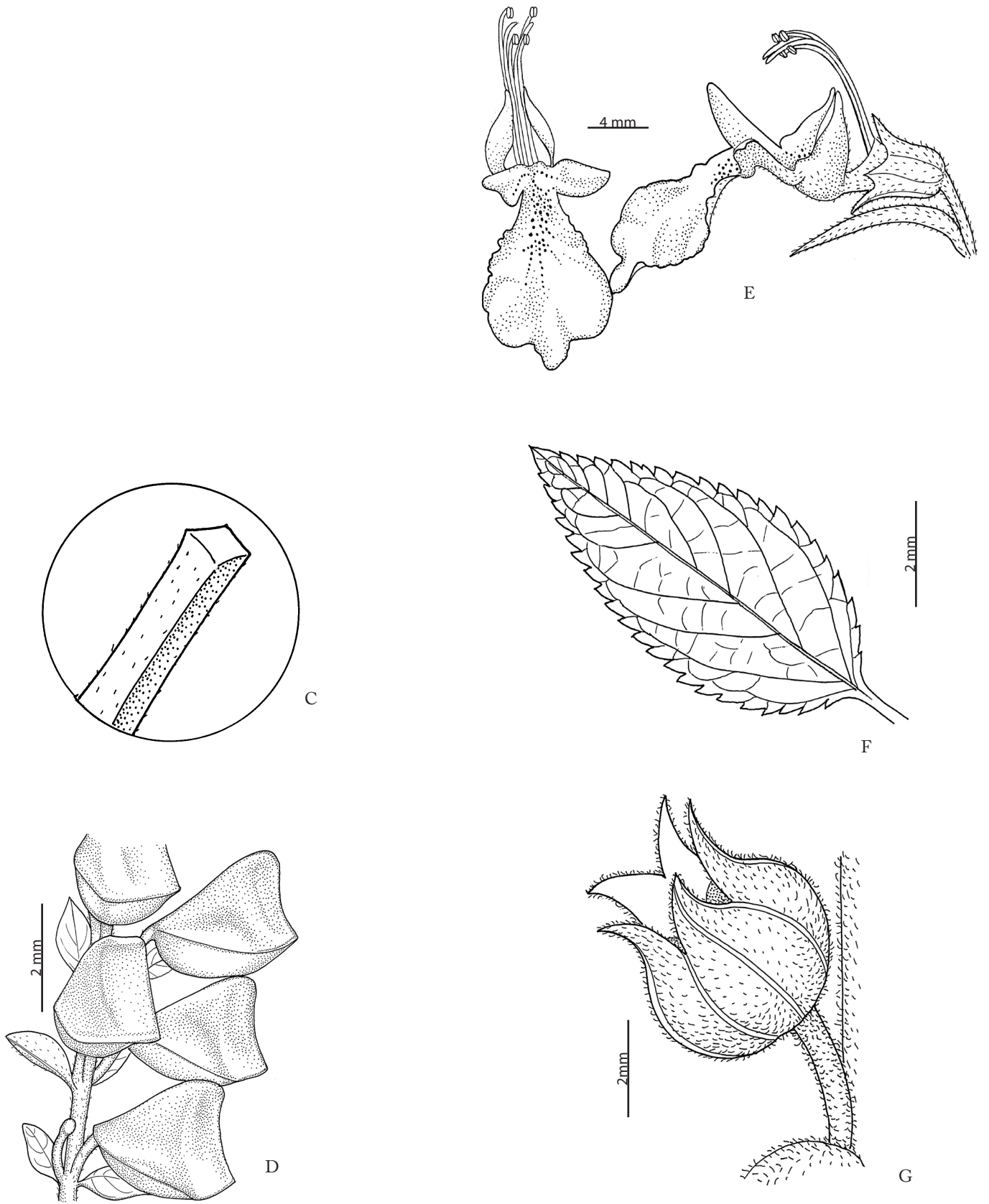


Figure 65: c–d, *S. lateriflora* stem and fruit; e–g, *Teucrium canadense* flower, leaf, and fruit.