

Lobelia inflata L.

Standardized Common Name: Lobelia

Other Common Names: Asthma Weed, Indian Tobacco, Pukeweed, Wild Tobacco

Family: Campanulaceae

Taxonomy: *Lobelia* includes about 300 species, which occur almost worldwide and are quite diverse. The temperate North American species are mostly small, attractive herbs; in Africa, some species are large shrubs or trees.

Description: Annual herb with milky latex. Stem erect, usually branching, 0.15–0.5(–1) m high, pubescent with soft hairs especially near base. Leaves alternate, sessile or nearly so, obovate to oblong or ovate, 2.5–5(–9) cm long; base rounded, often asymmetrical; margins dentate to serrate; lower surface usually pubescent with stiff hairs. Inflorescence racemose, terminal, to 30 cm long, bracteate, loose; flowers pedicellate. Calyx campanulate, 5-lobed; in fruit, calyx inflated and broadly ovoid to spherical. Corolla 7–10 mm long, pale violet to whitish or pinkish, with a straight tube; upper lip of 2 erect narrow lobes, deeply cleft; lower lip of 3 spreading lobes, pubescent at the base with straight stiff hairs. Stamens 5; filaments fused; 2 smaller anthers pubescent above. Fruit a capsule, contained within the inflated calyx, 5–8 mm long, 2-locular, opening at the top, many-seeded.

Parts in Commerce: Leaves and tops, collected after some fruits have begun to mature

Identification:

Stem

- Stem slender in tops, coarsely angled
- Usually branching freely
- Often purplish
- Pubescent at least on basal part of stem, with long white hairs

Leaves

- Leaves ovate to obovate, 2.5–5(–9) cm long
- Base rounded, with little or no petiole, often slightly asymmetrical
- Apex acute to obtuse
- Margins with very short irregular teeth, with pale glands at tooth apices
- Lower surface often pubescent, especially along veins
- Color yellowish green
- Odor unpleasant but weak

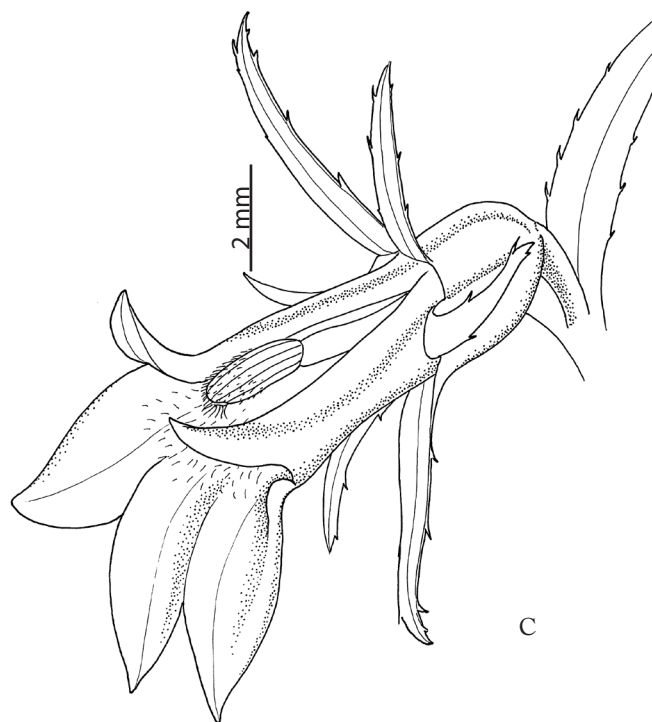
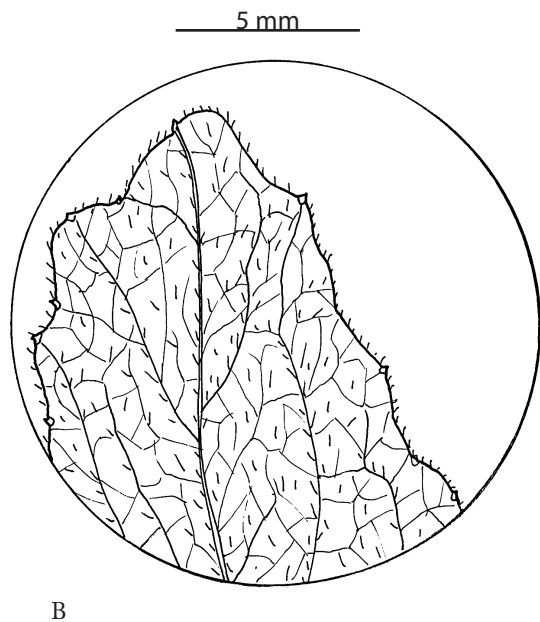


Figure 40: a, *Lobelia inflata* habit

- Taste similar to tobacco, acrid and burning, causing salivation

Flowers

- 7–10 mm long
- Calyx in flower has short tube and long narrow teeth
- Corolla 2-lipped, with upper lip of 2 deeply divided narrow lobes, lower lip of 3 shorter and broader spreading lobes
- Corolla lilac to pale blue, pink or white, with hairy patch at base of lower lip
- Stamens fused into a tube



Fruits

- Tube of calyx in fruit swollen, containing capsule, with long calyx teeth still present at apex of fruit
- Ovoid to spherical, 5–8 mm long, 10-ribbed
- 2-loculed, containing numerous tiny seeds
- Seeds brown, elliptical, with reticulated ridges on surface

Adulterants: Adulteration with other species is not reported; most species of *Lobelia* have larger and showier flowers, and would not be mistaken for *L. inflata*. However, some wild-harvested material has been reported to be of poor quality. It should not contain many large stems (Youngken recommends that no more than 10% of the stems should be over 2 mm in diameter), nor should it contain roots.

References:

Fernald ML. *Gray's Manual of Botany*, 8th ed. New York: American Book Company; 1950:1354–1357.

McVaugh R. Studies in the taxonomy and distribution of the eastern North American species of *Lobelia*. *Rhodora*. 1936;38:241–263, 276–298, 305–329, 346–362.

van der Meijden R, Vermeulen JJ. Over *Lobelia inflata* L. en *Lobelia urens* L. (Campanulaceae). *Gorteria*. 1994;20:105–108.

Youngken HW. *Text-Book of Pharmacognosy*, 5th ed. Philadelphia, PA: The Blakiston Company; 1943:863–866.

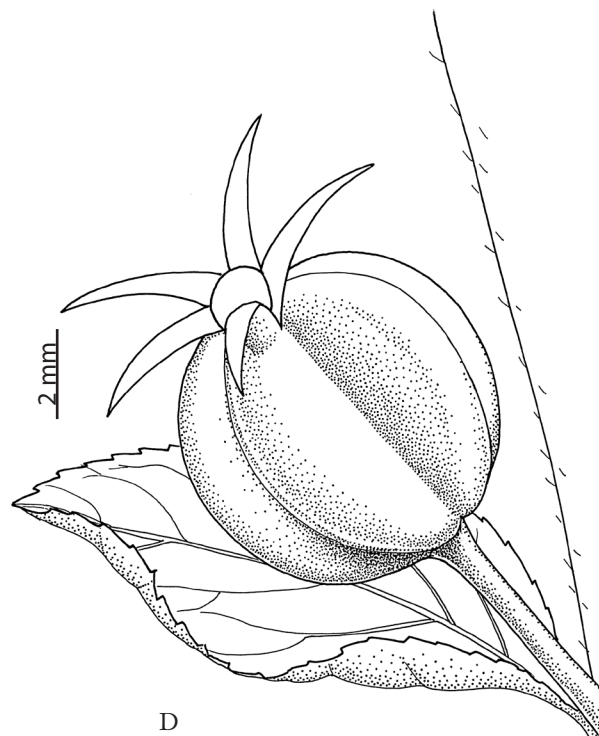


Figure 40: b-d, *L. inflata* close-up of lower surface of leaf, flower, and fruit.