

# *Plantago major* L.

**Standardized Common Name:** Plantain

**Other Common Names:** Broad-Leaf Plantain, Common Plantain

**Family:** Plantaginaceae

**Parts in Commerce:** Leaves

## **Identification:**

- Leaf blade ovate to elliptical or broadly elliptical, 2–22 cm long
- Leaves petiolate; petioles broad, flattened; petiole length sometimes equalling or exceeding blade length
- Primary veins arcuate (curving and running parallel from base to apex), usually 5–9 in larger leaves, rarely 3, raised and pale on lower surface
- Base subcordate to truncate, rounded or tapering
- Apex broadly acute to obtuse, often with a rounded tip, to rounded
- Margins entire or slightly wavy to irregularly dentate, especially near base, with teeth few and usually shallow or rounded
- Hairs short, pale, present mostly on lower surface, giving leaf a rough texture
- Fresh leaves somewhat thick
- Taste mucilaginous, salty, bitter or acrid

***Plantago lanceolata* L.:** Leaves of over half a dozen species of *Plantago* are used commercially in the U.S. or Europe; after *P. major*, *P. lanceolata* (English Plantain, also known as Narrow-Leaf Plantain) is one of the most common. Its leaves, which are quite variable, are quite different from those of *P. major*:

- Leaves linear to lanceolate, the blades to 25 cm long but 0.3–2.0(–4.0) cm broad
- Main veins 3 or 5, rarely 7
- Petiole narrow, long or nearly absent, longitudinally ridged, sometimes sparsely pubescent with very long soft hairs
- Base tapering gradually into petiole
- Apex narrowly acute, sometimes with a small abruptly narrowed point
- Margins usually entire, occasionally with few minute inconspicuous teeth
- Pubescent with long wispy hairs mostly confined to veins beneath, or glabrous, or softly pubescent

throughout

***Digitalis lanata* Ehrh.:** This weedy species, which contains toxic cardiac glycosides, has been found as an adulterant of cultivated *P. lanceolata*. It should be easily distinguished by the following features:

- Most leaves sessile; basal leaves have short petiole formed by tapering base, with wings of blade tissue, sometimes ciliate
- Venation pinnate with secondary veins irregular and much weaker than midrib; midrib often purplish beneath
- Glabrous or sparsely pubescent, smooth-textured; margins sometimes ciliate
- Both surfaces have a beaded, often glistening appearance under high magnification
- Taste probably bitter

**Taxonomy:** The genus *Plantago* includes over 200 species, distributed worldwide. *Plantago major* is variable enough that some early authorities divided it into two to four species, and numerous infraspecific forms were named. There are two widely distributed subspecies: subsp. *major* probably makes up a sizeable majority of the material used medicinally, while subsp. *intermedia* (DC.) Arcangeli (also known as subsp. *pleiosperma* Pilger) is largely confined to damp and often saline habitats.

**Description:** Perennial herb with leaves in a basal rosette; multiple rosettes may be produced in plants over 1 year old. Leaves 5–30(–40) cm long, long-petioled; blade ovate to elliptical; base subcordate to tapering; apex broadly acute to rounded; margins entire or irregularly dentate to sinuate, especially near base; main veins (3–)5–9. Inflorescences spicate, borne on basal scapes, 1–50 cm long, dense, bracteate. Flowers green, 2–3 mm long; sepals 4; petals 4, fused, dry, pale; stamens 4, basally fused to corolla, protruding much beyond corolla; ovary 2-locular. Fruit a circumscissile capsule; seeds (4–)6–20(–34), 1.0–1.7 mm long.

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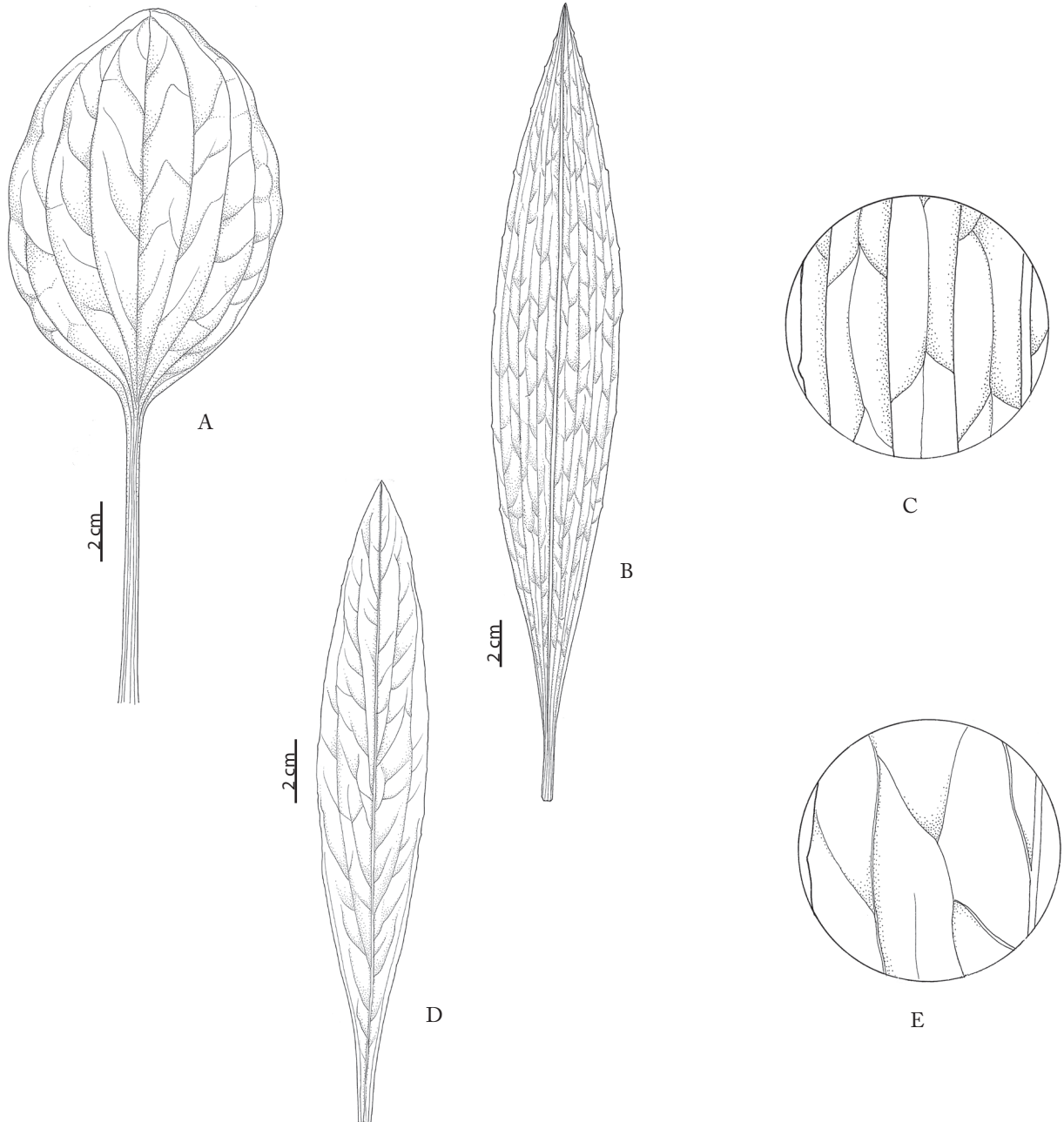
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**Figure 57:** a, *Plantago major* leaf; b–c, *P. lanceolata* leaf and close-up; d–e, *Digitalis lanata* leaf and close-up.