

Glycyrrhiza glabra L.

Standardized Common Name: Licorice

Other Common Names: Liquorice, Persian Licorice, Russian Licorice, Spanish Licorice, Turkish Licorice

Family: Fabaceae (Leguminosae)

Taxonomy: *Glycyrrhiza* includes about 18 species, ranging from Eurasia to North and South America and Australia. Many, if not most of these are used medicinally. According to *Herbs of Commerce*, *Glycyrrhiza echinata* L. may be sold interchangeably with *G. glabra* as “Licorice.” Contrarily, the United States National Formulary states that “Licorice” may include *G. glabra* and *G. uralensis* Fisch. ex DC., the latter of which is kept separate as Chinese Licorice by *Herbs of Commerce*. The description herein pertains primarily to *G. glabra*, which is by far the most common cultivated species.

This species may be divided into two or more varieties. The most important is the European plant, widely cultivated from China to North America, which normally has long stolons or rhizomes. It is sometimes termed var. *typica* Regel & Herd. in pharmacognostic literature, but would be more properly called var. *glabra*. The West Asian var. *glandulifera* (Waldst. & Kit.) A. I. Galushko (Russian licorice), alternatively called subsp. *glandulifera* (Waldst. & Kit.) Ponert, lacks stolons and is often wild-collected.

Description: Perennial herb, with taproots to 1 m long and sometimes with horizontally spreading rhizomes or stolons to 2 m long, multiple branches arising at base, 0.5–1.5(–2.0) m tall; stems pubescent. Leaves alternate, pinnately compound with a terminal leaflet, (3–)4–8(–9) pairs of lateral leaflets; leaflets 2.0–4.0(–5.5) cm long, short-petiolate, elliptical to oblong or ovate, sometimes with sticky coat of glandular hairs; bases somewhat rounded to tapering; apices obtuse, sometimes mucronulate; margins entire. Inflorescences racemose, borne in leaf axils, curving upwards, 5–15 cm long. Calyx slightly bilabiate, 5-lobed; corolla 8–12 mm long, pale violet to lilac or rarely yellowish, 5-petaled, bilaterally symmetrical with upper petal central and largest, the lowermost 2 petals fused at apex into keel; stamens 10, the lower part of all filaments fused or nine filaments fused and one separate; ovary 1-carpellate. Fruit a legume, narrowly oblong, 1.5–3.0 cm long, brown, (1–)3–5(–6)-seeded, laterally compressed between seeds and the margins slightly constricted; seeds broadly elliptical, laterally compressed.

Parts in Commerce: Roots and stolons, if present

Identification: The following description applies primarily to the cultivated European var. *glabra* (“var. *typica*”).

- Thickened root crown produces multiple very long taproots and slender stolons (or rhizomes), which are usually cut into shorter segments
- 0.5–2.0(–3.0) cm in diameter, nearly cylindrical
- Outer bark variable in color, grayish to dark reddish-brown or dark brown, longitudinally wrinkled by drying; sometimes peeled off at harvest
- Stolons bear occasional small dark buds and small roots at nodes; bark sometimes has lenticels
- Fracture fibrous, the wood of cut pieces easily splitting longitudinally
- Inner portions lemon-yellow
- Stolon in cross-section shows several-layered brownish cork (if not peeled); yellow to yellowish gray phelloderm, narrow cortex and thick ring of secondary phloem with numerous narrow radiating strands of phloem separated by parenchyma rays; distinct cambial region several cells thick; yellow wood with numerous narrow xylem rays separated by narrow parenchyma rays; small yellow pith
- Root cross-section lacks pith
- Odor weak, characteristic
- Taste distinctly sweet, with very little bitterness or acidity

Russian and Southwest Asian material (such as var. or subsp. *glandulifera*) differs from the above in several features:

- Thick rootstock often included, to 10 cm in diameter, bearing buds and stem remains, with a central pith
- Roots thicker, usually 1–5 cm in diameter
- Stolons absent (so no long narrow pieces have pith)
- Bark purplish, often scaly
- Taste sweet but with a bitter note

Adulterants: Material in modern commerce is cultivated, so confusion with other species virtually never occurs. *Glycyrrhiza uralensis* (Chinese Licorice, also termed Manchurian Licorice) can be distinguished by its dark brown, peeling cork, curved parenchyma rays in the phloem, and lacunae (large pores or intercellular spaces) in the wood. It is less sweet and more bitter than *G. glabra*.

References:

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