

***Coptis chinensis* Franch.,  
*Coptis deltoidea* C. Y. Cheng et  
*Hsiao*, *Coptis teeta* Wall.**

**Coptis Rhizome**

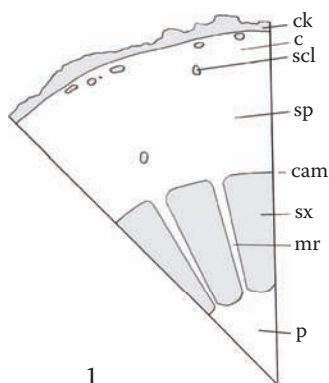
*Rhizoma Coptidis*

Pinyin: Huang lian

Ranunculaceae

*Coptis* is primarily used in traditional Chinese medicine and is a rich source of berberine. According to China's pharmacopoeia (2005), *Rhizoma Coptidis* may consist of the roots of *Coptis chinensis* Franch., *Coptis deltoidea* C. Y. Cheng et P. K. Hsiao, or *Coptis teeta* Wall. *Coptis* is typically traded with the rootlets removed and is also occasionally found as an adulterant of goldenseal (*Hydrastis canadensis*). In this latter regard, *Coptis* is sometimes referred to as "Chinese goldenseal." The two botanicals can be readily distinguished microscopically.

**Transverse section:** Cork; parenchymatous cortex, with frequent sclereids occurring singly or in small groups; yellow sclereids, heavily thickened, pitted, up to 70  $\mu\text{m}$  diameter; secondary phloem is narrow, parenchymatous, with groups of sclereids and pitted fibers just interior to the cortex; secondary xylem is dominated by thickened, pitted fibers; vessels are infrequent, mostly solitary, narrow, ~20–30  $\mu\text{m}$  diameter; compact groups of vessels and fibers are separated by broad parenchymatous rays; within the compact groups, narrower rays also occur; pith of thin-walled parenchyma with large intercellular spaces;



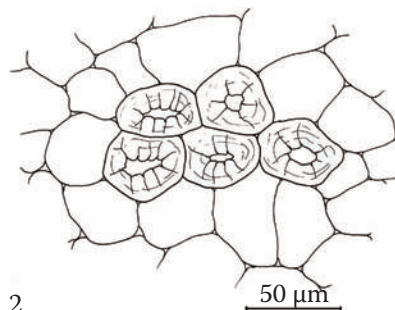
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solitary crystals of unknown composition are found occasionally in parenchyma cells.

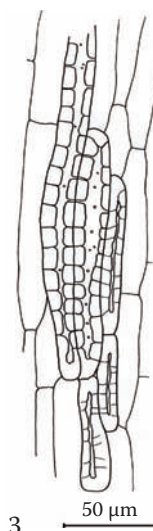
**Longitudinal section:** Reticulate or bordered-pitted vessels; elongated sclereids up to 150 (up to 450)  $\mu\text{m}$ .

**Starch:** Infrequent; simple, subspherical to ovate granules, up to 8  $\mu\text{m}$  long; hilum is visible as a dot on larger granules.

**Powder:** Intensely yellow; fragments of sclereids are solitary or in groups, some with pitted fibers; pitted xylem fibers and reticulate or bordered-pitted vessels; cork; pith parenchyma; starch.



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