Symphytum officinale L.

Comfrey Leaf

Symphyti officinale Folium

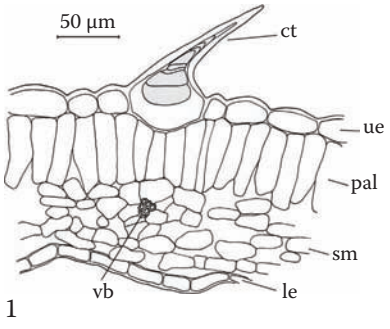
Boraginaceae

Comfrey leaf has been used by modern herbalists both internally and externally for its putative ability to heal tissues—most specifically, internally for stopping bleeding and for mending bones and externally as a salve or compress for wounds, burns, strains, and bruising. Comfrey contains pyrollizidine alkaloids (PAs). Concerns regarding the potential hepatotoxicity of PAs have dramatically curtailed the internal consumption of comfrey and, in Europe, have even led to restrictions of its use externally on broken skin. Various species of comfrey may be found in trade. Domestically, *S. officinale* is the predominant species; in Europe, other species, such as *S. asperum* and *S. uplandicum,* can be found.

Surface view: Upper epidermis is composed of cells with wavy anticlinal walls and anisocytic (rarely anomocytic) stomata ~25 µm long, wavy, sometimes beaded anticlinal walls; covering trichomes of two types containing cystoliths occur: (1) short unicellular, ~100 µm long, broad and circular base, tapering, straight apex; (2) acute long unicellular, up to 700 µm long, slender; epidermal cells are arranged in a rosette pattern around trichome base; glandular trichomes ~70 µm long, with unicellular stalk and unicellular spheroidal head; lower epidermal cells have wavy anticlinal walls; anisocytic (rarely anomocytic) stomata are more frequent than on upper epidermis; covering trichomes of two types occur: (1) short unicellular, up to 150 µm long, small base, slender and thick walled, with apex mostly hooked and generally without a cystolith; (2) long unicellular, up to 2 mm long, straight, thick walled, usually without a cystolith; glandular trichomes ~120 µm long, with multicellular, uniseriate stalk and unicellular spheroidal head.

Transverse section: Bifacial; palisade cells in one layer; spongy mesophyll with large intercellular spaces.

Powder: Fragments of epidermal cells with anisocytic stomata, unicellular covering trichomes (some with a cystolith and/or hooked apex), and glandular trichomes.



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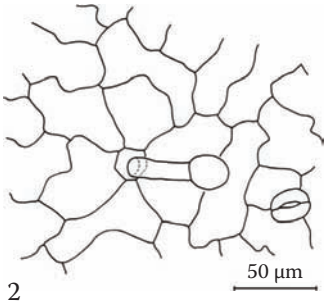

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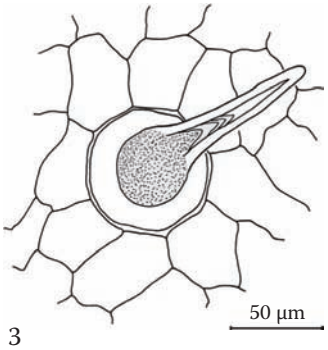

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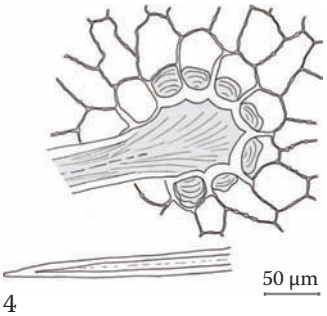

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