

Arctostaphylos uva-ursi* (L.) Spreng.*Uva ursi Leaf***Folium uvae ursi**Ericaceae*

Uva ursi, also known as bearberry, is one of the most commonly used urinary tract antiseptics and tonics in Western herbalism. It is rich in arbutin, which has strong antimicrobial activity. There are numerous varieties of *Arctostaphylos* and it is occasionally adulterated with other plants of the Ericaceae family, such as *Vaccinium* species plants. Although it is difficult to differentiate *A. uva-ursi* var. *uva-ursi* from other varieties of *Arctostaphylos* (e.g., *A. uva-ursi* var. *stipitata*), *Arctostaphylos* species can be readily distinguished from adulterating species of other genus plants.

Surface view: Upper epidermis consists of polygonal cells, with irregularly thickened, beaded, and pitted anticlinal walls, and a thick cuticle that may have fissures appearing as lines; trichomes and stomata are absent; lower epidermal cells are similar to those of the upper epidermis, but slightly smaller, with abundant, large (~40–50 μm long), anomocytic stomata; the thick cuticle is absent in a circular area around each stoma; bicellular covering trichomes up to 1 mm long occur on the lower epidermis and leaf margin; the basal cell is small and thick walled with a narrow lumen, and the large, thick-walled, tapering terminal cell is frequently bent or hooked; trichomes are abundant on young leaves, but are frequently broken off on older ones, leaving circular

scars; calcium oxalate prismatic crystals occur in the mesophyll, particularly near the veins.

Transverse section: Bifacial; palisade layer three to five cell rows thick; spongy mesophyll with large intercellular spaces; cells may be pigmented by orange-brown ergastic substances; thickened, pitted fibers are located along the veins; prisms of calcium oxalate are found in a parenchymatous sheath around vascular bundles; above and below the major veins and their crystal sheaths, just interior to the epidermis, is a layer (several cells thick) of slightly elongated cells that may also contain calcium oxalate prism crystals.

Powder: Primarily, fragments of the upper epidermis with polygonal cells; bicellular covering trichomes and anomocytic stomata from the lower epidermis; thick-walled fibers; vessels; calcium oxalate crystal sheath; frequent transverse sections of leaves.

