Viburnum opulus L.

Cramp Bark Stem Bark

Viburni opuli Cortex

Caprifoliaceae

As the name suggests, cramp bark is commonly used as an antispasmodic, most commonly for menstrual cramps. It has been widely employed by herbalists and naturopathic physicians for menstrual cramps and smooth muscle spasms in general. Cramp bark can be substituted with black haw (*Viburnum prunifolium*). The two species can be differentiated microscopically. For a more complete microscopic differentiation of the species, see entry for *Viburnum prunifolium*.

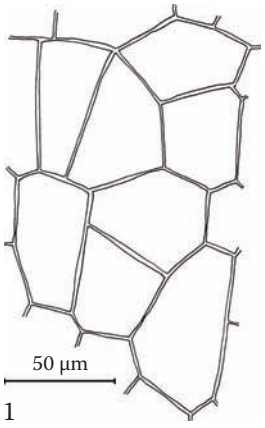
Surface view: Cork consists of reddish brown polygonal cells.

Transverse section: Cork of reddish brown polygonal cells; collenchyma occurs inside the cork; cortex is composed of thin-walled, round cells containing oil droplets and, more rarely, small starch granules occurring in dense aggregates; calcium oxalate cluster crystals are abundant, up to 30 µm diameter; secondary phloem contains small groups of elliptical sclereids; abundant medullary rays are one or two cells broad; parenchyma contains calcium oxalate cluster crystals up to 30 µm diameter and oil droplets; fiber bundles may be present or absent.

Longitudinal section: Primary cortex consists of elongated cells; calcium oxalate cluster crystals in secondary phloem are arranged in longitudinal rows.

Starch: In cortex; compound granules are densely packed in aggregates, slightly angular in outline, ~2–8 µm diameter.

Powder: Aggregates of yellow sclereids; fragments of parenchyma containing calcium oxalate cluster crystals and oil droplets; fragments of cork; fibers; starch (water).



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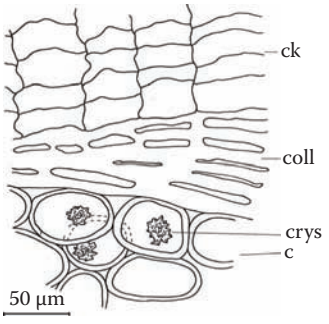

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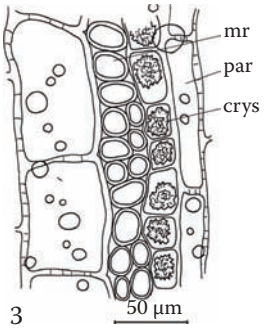

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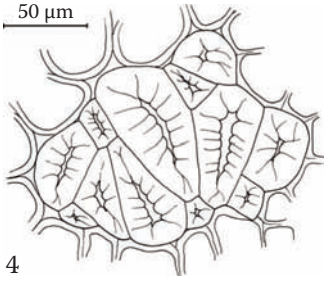

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