Cephaelis ipecacuanha (Brot.) Rich. and *Cephaelis acuminata* Karsten

Ipecac Root

Radix Ipecacuanhae

Rubiaceae

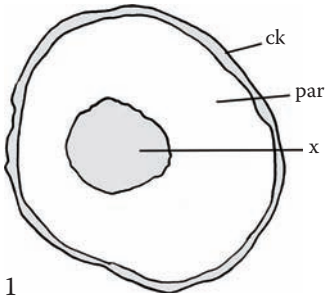
Ipecac has a long history of use as an emetic and represents one of the well-established herbal drugs used in modern medicine. Three varieties—gray, red, and black—have been historically used; all are derived from the same species (Maisch 1899). Commercial samples of the root often contain fragments of rhizome and stem, which may be apparent upon microscopic examination of powdered material. Good quality material should consist of approximately 80% root bark by weight (Wall 1909). The stem can be macroscopically recognized by the presence of opposite leaf scars on fragments and an abundance of chloroplasts (Youngken 1930).

Transverse section: Several rows of cork cells; narrow phelloderm of regularly arranged cells; interior to the phelloderm is a broad homogeneous zone of parenchyma cells containing large amounts of starch; abundant bundles of numerous acicular crystals of calcium oxalate are aligned parallel to one another in idioblasts, individual crystals ~30–50 (–80) µm long; bundles disintegrate when cells are damaged; a narrow ring of small and irregular phloem cells occurs outside the compact secondary xylem; inconspicuous cambium; homogeneous xylem consists of vessels and tracheids ~20–25 µm diameter, with occasional fibers and parenchyma; narrow medullary rays, one cell or, rarely, two cells wide are composed of thickened and lignified parenchyma cells; pith is absent.

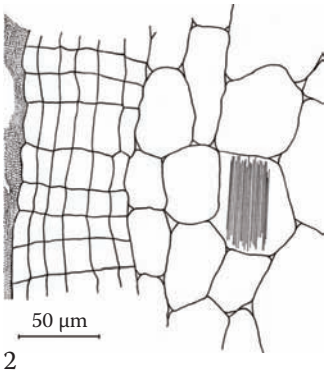
Longitudinal section: Vessels and tracheids with small, simple or bordered pits; individual fibers with few pits, some septate, are occasionally embedded between vessels and tracheids; cells of the medullary rays are rectangular, with thickened and pitted walls.

Starch: Abundant in parenchyma; granules simple, or most commonly two to four or up to eight compounds, usually with one smaller granule in the aggregate; spherical to ovoid individual granules, up to 15 µm diameter, some with a dotted or cleft-shaped hilum; compound granules disintegrate easily, creating many granules with flattened sides.

Powder: Fragments of parenchyma with bundles of acicular crystals of calcium oxalate; tracheids and narrow vessels with simple or bordered pits; cork; occasional fibers; starch.



1



2