



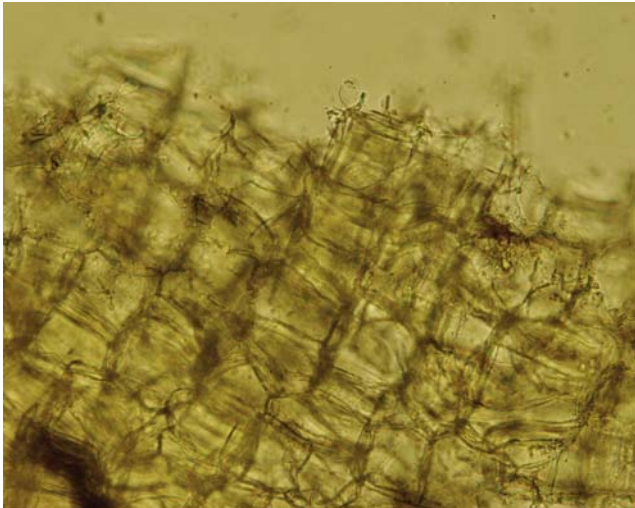
## **Withania Somnifera Root – BP 2016**

Photographs and micrographs are provided for information. To be used in conjunction with the published British Pharmacopoeia monograph.

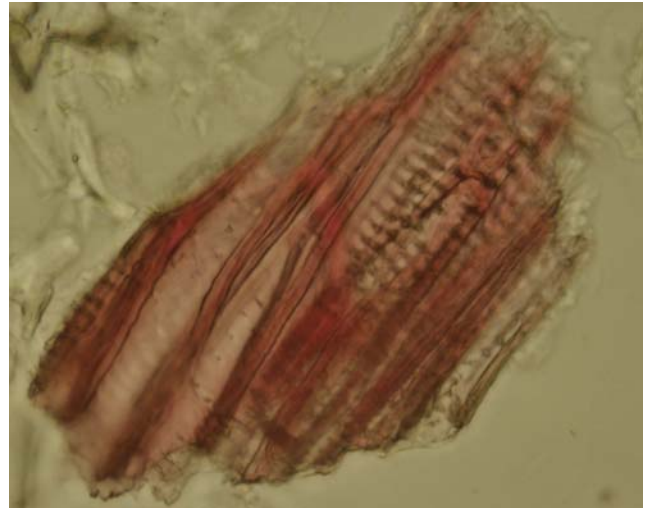
## Identification B

Reduce to a powder (355). Examine under a microscope using chloral hydrate solution. Cork cells in surface view polygonal, in sectional view rectangular, thin-walled, yellowish brown, often broken.

Parenchymatous cells in groups, elongated, rectangular, or oval to round, filled with starch; some pitted, lightly lignified, found alongside vascular fragments; parenchyma of the medullary rays, one or two cells wide shown crossing xylem elements at right angles; Occasional fragments of spiral, scalariform or pitted vessels with broad lumen; tracheids and vessels usually heavily lignified, reticulate or bordered pitted, single or in small groups. Fibres often accompanying vessels, thick walled, heavily pitted, and lignified; others less pitted and lignified, thin walled, either found singly or in groups of two or three. Microcrystals of calcium oxalate scattered or occasionally in idioblasts. Examine under a microscope using a 50% v/v solution of glycerol. Starch granules abundant, simple or 2 to 4 compound, round to oval, with a point, stellate or cleft hilum.



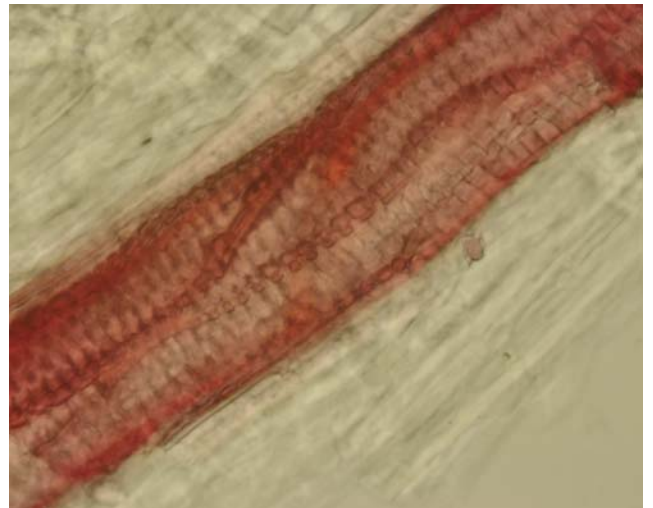
*fig. 1* Cork cells (200x)



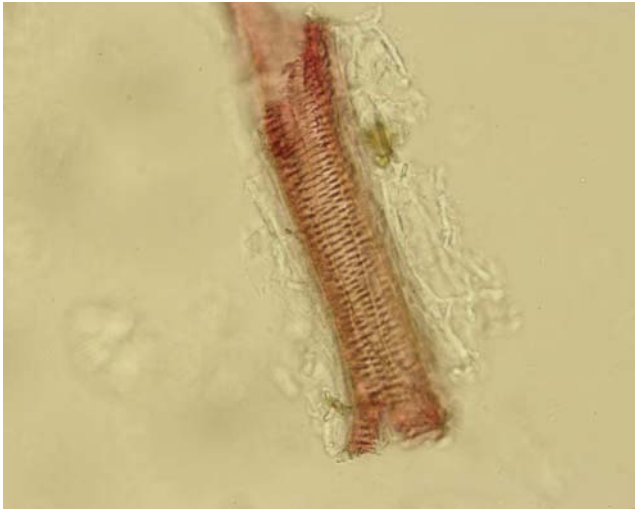
*fig. 2* Pitted and scalariform vessels stained with phloroglucinol (500x)



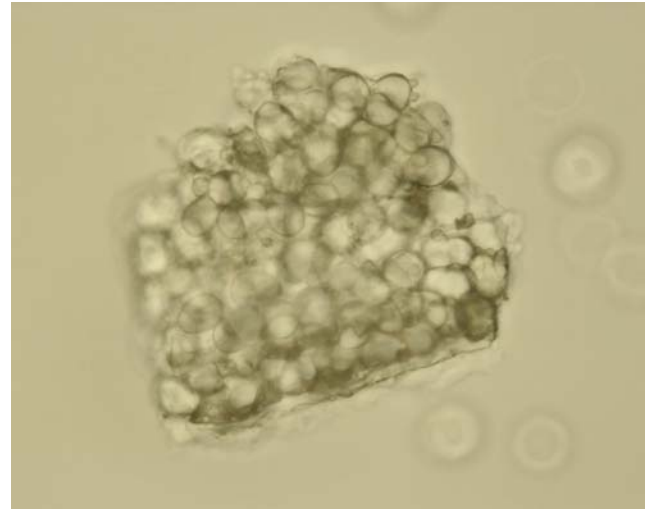
*fig. 3* Tracheids stained with phloroglucinol (200x)



*fig. 4* Tracheids stained with phloroglucinol (500x)



*fig. 5* Scalariform vessel stained with phloroglucinol (200x)



*fig. 6* Parenchyma cell packed with starch grains (500x)



*fig. 7* Starch granules with stellate hila (500x)