

Aim :-

Perform microscopical study of *Datura* leaf.

Reference :

Kokate C.K., Purohit A.P. and Gokhale S.B. Nixali publication, 50<sup>th</sup> Edition page no. - 15.50 - 15.52.

Requirement

- a) Chemical  $\rightarrow$  Safranin reagent, glycerin.
- b) Other  $\rightarrow$  *Datura* leaf, potato.

Theory :

*Datura* other name is Angel's trumpet.

Biological Source :

*Datura* consists of the dried leaves and flowering tops of *Datura metel* and *D. metel* var. *fastuosa* Safford. It belongs to family Solanaceae.

Geographical Source : India, England.

Cultivation and Collection : • The seeds require about 15-20 days for germination. About 7-8 kg of seeds

Teacher's Signature \_\_\_\_\_



per hectare are required for sowing purpose.  
Plant is ready after 4 months.

Macroscopic Characters :- Leaf length = 9-18 cm and width = 8-13 cm. The leaf is covered with minute hairs. Leaf colour is slightly pale from lower surface.

### Uses :

Datura herb and its main alkaloid hyoscyne are parasympatholytic with anticholinergic and central nervous system depressant effects. The drug is used in cerebral excitement. Along with morphine, it is used as preoperative medication.

### Procedure :

- i) Collect fresh and clean leaf of *Datura*.
- ii) Take four watch glass which will be used in keeping the leaves of *Datura*.
- iii) Place water, safranin, glycerin and potato cube in the respective watch glass.
- iv) Take a fresh leaf of *Datura* and place it over the plane surface.



- v) Now take a new and sharp blade to cut the Datura leaf.
- vi) Cut the leaf of Datura containing midrib portion.
- vii) Prepare the cubes of potato for further use of holding datura leaf.
- viii) Transfer the cutted portion of Datura leaf in water glass containing water.
- ix) Now, place the cutted portion of datura in b/w the opening of potato cube.
- x) Cut the excess portion of leaf using blade and start cutting of thin section of datura leaf.
- xi) Transfer the thin section in water containing watch glass.
- xii) Again transfer the thin section in safranin ~~reagent~~ reagent containing watch glass.
- xiii) After 2 to 3 minutes transfer the thin section again into fresh water containing watch glass to move out excess safranin reagent.
- xiv) Now, take a glass slide and place a good section over the slide and add 2 to 3 drops of glycerin or G.S.



- xv) Cover the slide with coverslip and observe the prepared slide using a compound microscope  $10\times$  and  $10\times$  (~~10~~ ocular and stage).
- xvi) Draw the neat and clean diagram in practical notebook.

### Result:-

Microscopical study of datura leaf ~~is~~ was successfully performed in pharmacognosy laboratory.

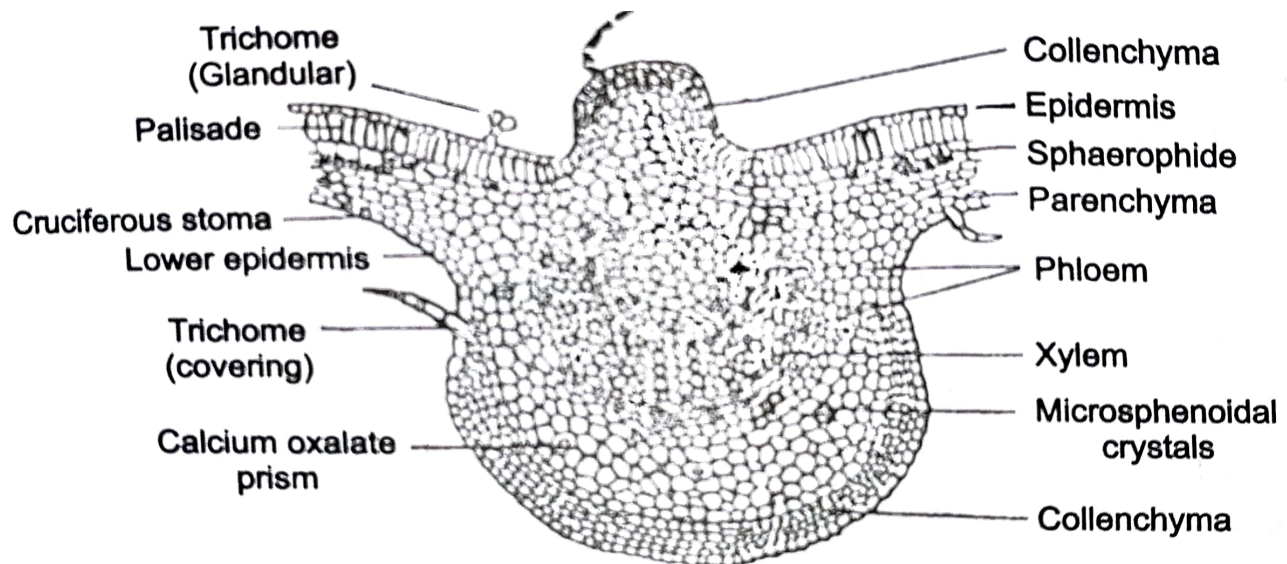


Fig. 15.23: T.S. of *Datura* leaf