



EXPERIMENT NO: 4

Digitalis leaves : Foxglove leaves: Folia
Digitali Latin names: Digitalis purpurea L.
Digitalis lanata L
Family: Scrophulariaceae



D. purpurea

D. lanata

Biennial or perennial herbaceous plant reaches 1-1.5 meters in height with bell-shaped flowers .

Both leaves surfaces are hairy.

D.Purpurea : has hairy leaves with purple flowers.

D.Lanata : has very hairy leaves with whitish pink flowers .

Colour: dark grayish green

Odour: no marked odour.

Taste: distinctly bitter.

Origin:

Southern and Central regions of Europe.

Chemical constituents

Glycosides: cardiac (steroidal) group:

1. Digoxin.
2. Digitoxin.
3. Gitoxin.

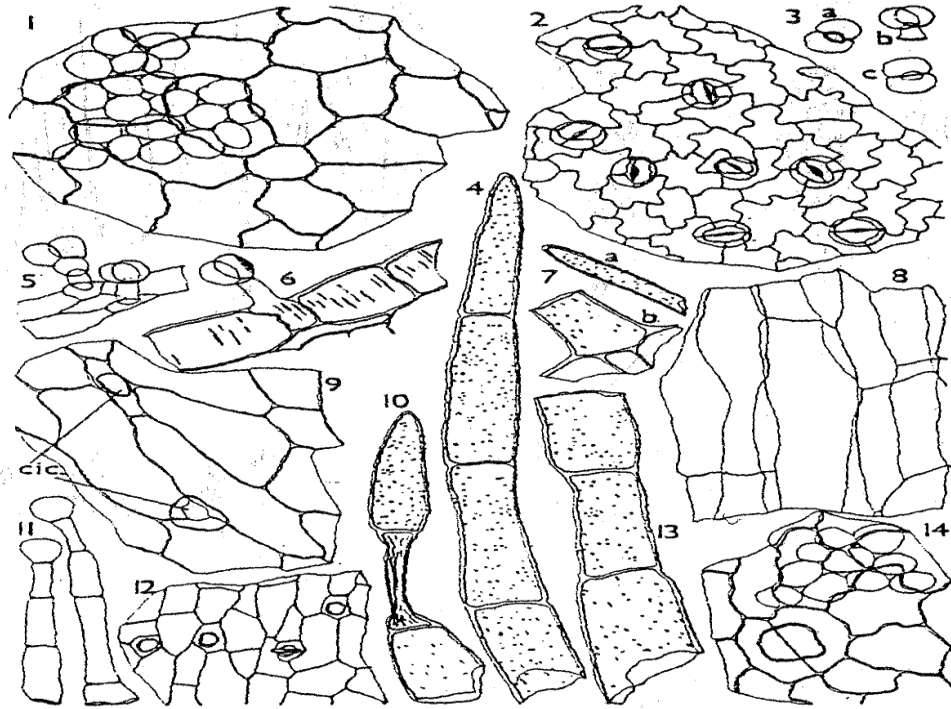
Uses

1. Congestive heart failure.
2. Arrhythmia.

Microscopical examinations:

Characteristic microscopical features:

1. Anomocytic stoma (2).
2. Covering trichome (4).
3. Trichome with a collapsed cell (10).
4. Glandular trichomes with unicellular heads (11).
5. Fragment of a large covering trichomes (13).



1. Upper epidermis in surface view, with underlying palisade cells.
2. Lower epidermis in surface view, with anomocytic stoma.
3. Glandular trichomes with bicellular heads seen (a) from below, (b) from the side and (c) from above.
4. Part of a covering trichome.
5. Glandular trichomes attached to a fragment of the epidermis.
6. Epidermis in sectional view showing pitting in the walls and a glandular trichome.
7. Fragments of covering trichomes. (a) Apical cell and (b) Basal cell attached to a fragment of epidermis.
8. Cortical parenchyma in longitudinal view.
9. Epidermis in surface view showing cicatrices.
10. Part of a covering trichomes showing a collapsed cell.
11. Glandular trichome with uniseriate stalks and unicellular heads.
12. Epidermis from over a vein in surface view showing cicatrices.
13. Fragment of a large covering trichomes.
14. Upper epidermis in surface view showing a cicatrix and underlying palisade cells.