



Centurion
UNIVERSITY

*Shaping Lives...
Empowering Communities...*

Anatomical adaptations of Xerophytes

Facilitator :Dr. Sagarika Parida

Dept. of Botany,

School of Applied Sciences

Centurion University of Technology and Management

Bhubaneswar



Centurion
UNIVERSITY
Shaping Lives...
Empowering Communities...

Anatomical adaptations of Xerophytes

- In xerophytes leaves are thick and leathery, well evolved cuticle and abundant hairs
- Well differentiated mesophyll is also present, and there is often more than one layer of palisade tissue (viz. Nerium, Hakea).
- The walls of epidermal and sub-epidermal cells are frequently lignified, and distinct hypodermis may be present
- Presence of well-developed vascular system and often an abundance of sclerenchyma, either in the form of sclereids or fibres (*Hakea, Ammophila*)



Centurion
UNIVERSITY

Shaping Lives...
Empowering Communities...

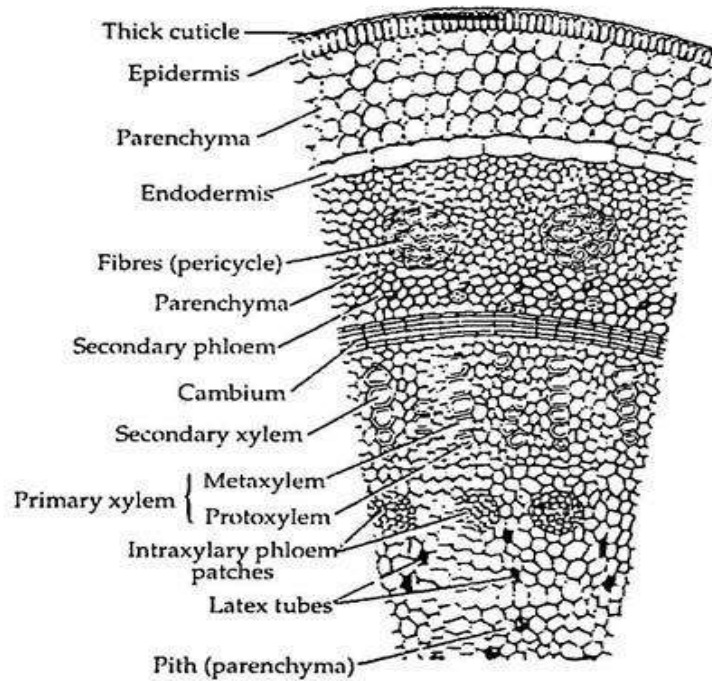


Fig. 15.2 Anatomy of xerophytic stem T.S. of a sector of *Calotropis* stem (dicot.)—detailed structure.

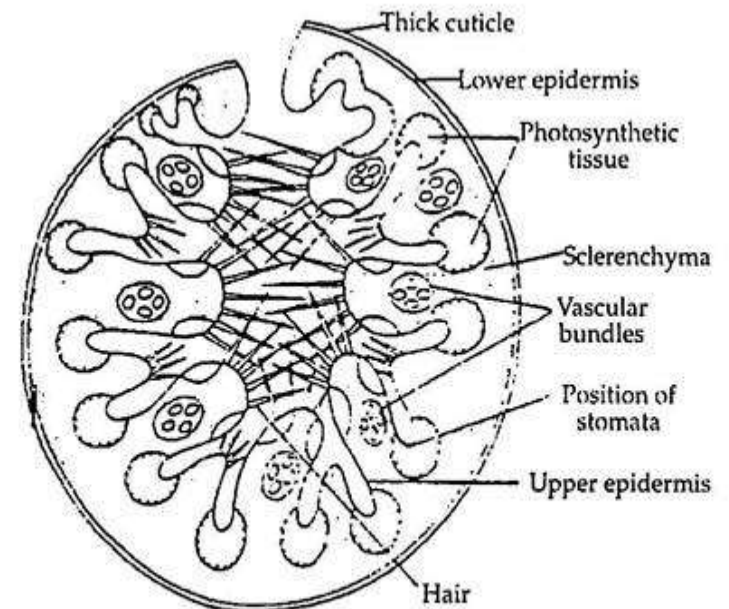


Fig. 15.3. Structure of xerophytic leaf. T.S (diagrammatic) of *Ammophila arenaria* leaf showing protected stomata.



**Centurion
UNIVERSITY**

Shaping Lives...
Empowering Communities...

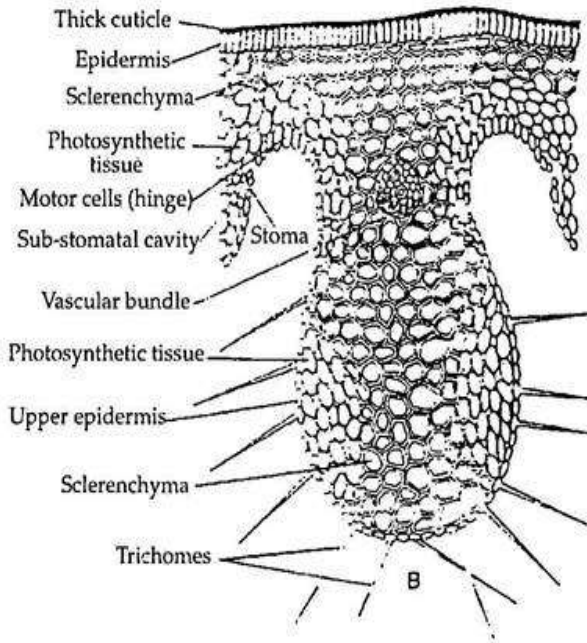


Fig. 15.4. Structure of xerophytic leaf. Part of T.S. of leaf a *Ammophila arenaria*, between two ridges (detailed).

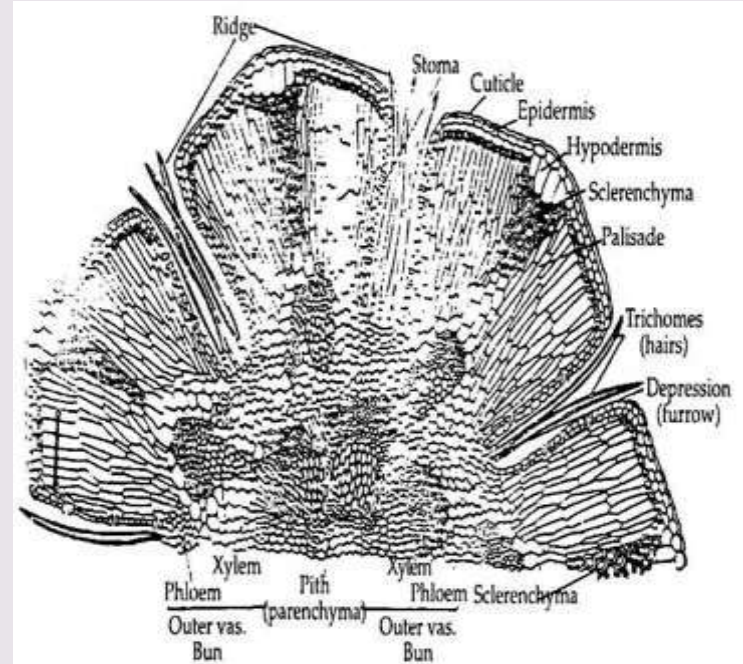


Fig. 15.5. Xerophytes, T.S. of a xerophytic stem *Casuarina equisetifolia*—dicot).



Centurion
UNIVERSITY

*Shaping Lives...
Empowering Communities...*

Thank You