



Pinus

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- 1 Needle-like shape :- The adult foliage leaves are elongated slender and pointed, commonly known as "needles".
- 2 Arrangement in fascicles :- Needles are not borne singly but in clusters or bundles, known as fascicles, usually containing 2 to 5 needles per cluster.
- 3 Xerophytic structure :- The structure of the needle is highly adapted to arid environments [xerophytic] to minimize water loss.
- 4 Thick Cuticle :- The outermost layer is the epidermis, which is covered by a very strong, thick and waxy cuticle.
- 5 Sunken stomata :- Stomata (breathing pores) are numerous but sunken below the surface [sunken stomata] to reduce transpiration.
- 6 Sclerenchymatous Hypodermis :- Below the epidermis, a few layers of thick-walled cells called the hypodermis are present.
- 7 Resin Canals :- Resin canals or ducts are present in the mesophyll tissue, which secrete resin.
- 8 Vascular structure :- The vascular bundle consists of xylem [lacking vessels] and Phloem [lacking companion cells] surrounded by a specialized endodermis.

OPPO A3 Pro 5G

Sāfiyā Sālmāñi