The Astonishing Water Show Unravelling the Mysteries of the Crocodile Bark Tree

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SINCE time, in the heart of a dense forest, there was a tree unlike any other. Its bark was rough and scaly, resembling that of a crocodile's skin. The locals called it the crocodile bark tree; we the scientists, call it *Terminalia elliptica,* and it is known for its incredible ability to produce water from its bark.

Lil' Maya, a young girl of the indigenous Konda Reddi tribe who resides in the vicinity of the forested area of Papikonda National Park, Andhra Pradesh, was known for her audacious spirit. Little did she know, she trod deeper into the forest beyond her usual stomping ground on an exceptionally hot summer day. As the sun got hotter, her mouth began to get drier, and she found herself getting thirstier. "I wish I had brought some water," she said aloud, her eyes searching hopefully for anything within view.

That's when she noticed a giant tree with scaly bark that was horrible yet interesting. She walked closer and closer and tried figuring out the deep V-shaped incision on the bark of the tree. Only to her astonishment, water was dripping out! Curiosity kills the cat, so kill it before you kill something else.

She scratched it a bit more, a stream of water flowing down the incision. She dared to drink that stinky and tangy off-flavoured liquid and quenched her thirst. Crocodile tree, you are spectacular! She exclaimed. How does it store so much water inside its bark like that? Here comes another curiosity of knowing what's more. A few moments later, her mother arrived on the forest path, only to salvage her ever-evolving curiosities. Oh! You have discovered this incredible wonder of our forest, the Indian Laurel tree. She said with a smile on her weary face, "Let me explain the startling secret" It is no sorcery but science.

The tree was known to quench the thirst of the lost wanderer on the forested path. To our surprise, the tree's intricate biology reveals the phenomenon itself. It is designed to store great quantities of water in its gigantic trunk. It endures the long months of merciless drought, and the water is stored in specialised cells called paratracheal parenchyma, which surround the water-supplying xylem vessels in their various divisions. "Xylem vessels"? Maya asked.

Xylems are like little straws that carry water up from the roots to the leaves; her mother explained in the simplest hitherto the way anyone could get it. The xylem constitutes vessels, tracheid, parenchyma, and fibres, which serve different purposes. Vessels are wider conducting cells that transport water and nutrients; Tracheids are narrower conducting cells that transport water and nutrients; Parenchyma cells play a crucial role in providing storage function for water as well as other nutrients; and Fibres assist trees with their mechanical support.

To understand the water show performed by *Terminalia elliptica* (earlier known as *Terminalia tomentosa*), we need to understand that this xylem parenchyma is divided into apotracheal parenchyma and paratracheal parenchyma cells. The apotracheal parenchyma cells have, so far, no association