

DHOK, THE PURPLE-HEART TREE WARRIOR OF THE ARAVALLIS

Relevant for: Environment | Topic: Biodiversity, Ecology, and Wildlife Related Issues

The dhok grows in abundance in Mangar Bani near Delhi. | Photo Credit: [Pradip Krishen](#)

Of the hundreds of trees he has profiled in his books, Pradip Krishen has one favourite: an enigmatic species that some local communities call dhok, taxonomists label *Anogeissus pendula*, and in plain English is called 'button tree' for its flat, round fruits. "It's a pretty tree with tiny leaves and a crooked silvery trunk," says the writer and ecosystem restorer. He would discover there was more to this species than its looks.

The dhok caught his eye in 2004 when he visited Mangar Bani, a 100-hectare sacred forest protected by the pastoral Gujjars, not far from Delhi. Thousands of trees of this species clung to a rocky slope, monopolising it as if it were the best substrate in the world.

Millennia of stormwater run-off have carved the steep hillside and left hardly any soil on the quartzite surface. The punishing terrain defeats other species, but the button tree, turning adversity to opportunity, gloriously colonises it. Wrapping roots valiantly around rocks is only half the battle. How does the button tree find moisture? It has no succulent parts or deep roots that can bore into fine rock fissures seeking dampness.

Krishen discovered the species grows only on the low hills of the Aravallis and in a few spots along the Vindhyas. In this sense, it resembles the sal that refuses to grow outside its range and has defeated the best efforts of foresters for more than 150 years. Any conjecture about magical minerals, singular soil composition, or the unique microclimate doesn't go far since the species grows in a variety of substrates and strata within the same hill range.

If the button tree is the icon of the Aravallis, then Mangar Bani is emblematic of the region's flora. "It's the closest thing I had seen that resembled a natural forest close to the Delhi region," says the environmentalist.

A vista of button trees creates a deceptive impression of fecundity. Here lies another of its contradictions. Its moong dal-like seeds are extremely reluctant to sprout, with only one percent succeeding, he says. They can't sprout on a craggy incline, anyway, and stem cuttings don't take root. Instead, the button tree does something spectacular. It creates clonal colonies, every tree a replica of its neighbour.

Under the soil surface, one tree sends out a horizontal stem, called a stolon, and from the end, a sapling roots. Such stems extend in every direction, spawning a colony of genetically identical trees. "It's like the trees are holding hands," says Krishen. Many arid zone species propagate in this manner, an insurance against the tough growing conditions, and the dhok exploits this adaptation.

Trembling giant

The most famous clonal colony is the trembling giant, nicknamed 'Pando', of Utah, U.S. Approximately 47,000 quaking aspens crowd 43 hectares, but underground, they share a common root. All the trees are, in effect, one.

But the button tree is “more like a banyan,” says Krishen. Instead of sending aerial roots down, the dhok sends subterranean shoots up. Since the colonies don’t have a common root as Pando, each tree is an independent entity.

How big is the largest button tree colony? The answer requires a botanist armed with genetic markers. But, much to Krishen’s frustration and disappointment, none has shown an interest in solving the mystery.

On a ridge at Mangar Bani, he noticed vegetation matting the ground under his feet. A closer look revealed it was the dhok. Why wasn’t it growing upwards like a tree? He realised this was another adaptation to being nibbled by livestock. Persistent browsing may suppress other species. But the button tree rolls with the punches. When animals nibble on it, it ducks its head and proliferates horizontally. When it grows tall, it yields one of the hardest timbers. The wood with a purple heart is used for making tool handles.

This purple-heart warrior of a tree holds together a fragile ecosystem while sustaining livestock and producing one of the toughest timbers known. “It’s battling so many odds,” says Krishen. “It’s such a fighter, a real hero.”

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New find is bigger in size than one discovered in 2016, also in Arunachal Pradesh

The Nandankanan Zoological Park (NZP) has lost one of its beloved members — 41-year-old Orangutan, an extant species of great apes. According to NZP,

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