



T.N.A. PERUMAL



by Kartik Shanker

Nilgiris *floral paradise*

The mountain air is cold and crisp, there is something searingly clear about it as it burns its way into my lungs. I can almost feel my breath condense, but the darkness is complete and I can see nothing. Above me the sky is cloudless, and stars illuminate every point in an inky sky. I sense the *shola* breathing behind me, as it looms dark and silent, harbouring many a mystery, but no sign of resentment against the people who have violated it so rudely. I arrived in the Nilgiris on a December morning, and was greeted by slopes streaked blue by the *kurinchi*, which flower once in many years and give the blue mountains their name. That was auspicious. Ooty, however, was not; it was crowded, polluted and dirty and I couldn't wait to get out of this once-beautiful hill station. I took the first bus to Avalanche, a small settlement appropriately named for the *shola* that seemed to cascade down the slopes to the blue reservoir in the valley. The landscape *en route* was no more

encouraging than Ooty itself. Most of the *sholas* and grasslands had been replaced by plantations of various sorts. Only towards Avalanche itself were there any remnants of the natural vegetation of the region. It was a rude introduction to this magnificent landscape, unique and yet so misunderstood and ignored.

The Western Ghats are amongst the oldest mountain ranges in the subcontinent, stretching from the river Tapi to the tip of the Peninsula. At higher altitudes, the montane ecosystem comprises a unique combination of grassland and forests. These stunted evergreen forests or *sholas* are found in discreet patches in a matrix of grassland, mostly in valleys and on the eastern slopes of the hills. The combination of frost and the morning sun kills the saplings on the western slopes and also ensures a sharp ecotone between *shola* and grassland. At the beginning of the century, there was a wide debate regarding

the origin of these grasslands. While some insisted they were anthropogenic and that the advent of man had created this habitat by burning and grazing, others were convinced that the grasslands were natural. In recent times, studies on pollen and carbon isotopes in peat bogs (where sediments at different levels represent different time scales) have proved that grasslands were present in the Nilgiris as far back as 40,000 years ago, long before man invaded the landscape. The evidence also showed that *sholas* had probably expanded during periods of global warming and contracted when global temperatures had fallen. However, this wisdom came too late for most of the Nilgiri's grasslands.

In the mid-1800s, the British set their sights on the Upper Nilgiris, because the climate, and to some extent the vegetation, so strongly resembled what they were used to back home. A grand plan was born of creating





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a mini-Europe on the temperate slopes of the blue mountains. Much of their plans went awry, but they left behind a small, determined group of planters, who proceeded to farm practically every slope in the Nilgiris for crops like tea and coffee, the only constraint being accessibility. Thanks to the difficulty of terrain, some areas of the Nilgiris remain pristine to this day. In Carrington, on the southwestern slopes, there is an estate that was originally planted by prisoners from the opium wars and the ruins of the old jails can still be seen there. Even as the planting of tea and other crops was in progress, the forest-conscious British did take some care to protect the *sholas*, but grasslands were considered wasteland and fair game for farming. Unfortunately, this mind set persisted into the 1900s and pervaded the Indian Forest Service as well, which, in a spirit of forestry and social service, started to extensively plant exotics such as eucalyptus, pine and wattle. While the first is known to be detrimental to other species, the last is the most widely spread in the Nilgiris and has probably caused the maximum damage. The replacement of large areas of grassland by wattle is one of the most important factors for the decline of the highly endangered Nilgiri tahr. Today, the few remaining *shola*-grassland landscapes are found inside the Mukurthi National Park on the western slopes of the Nilgiris and in the vicinity of Avalanche.

In the morning, I decided to explore the giant *shola* that slumbered behind the Forest Rest House at Avalanche. A small road led to a defunct trout hatchery, which had been started to introduce and maintain a population of trout in the hill streams, so that fishing could add to the tourism industry, another hangover from the Raj. The hatchery lay in ruins, apparently a herd of elephants had taken umbrage at this petty obstacle in their customary route. The dung that I passed was old, so, without fear of being run over by passing pachyderms, I boldly ventured where too many men had gone before.

The Nilgiris or blue mountains get their name from the kurinchi Strobilanthus (facing page), which flowers once in several years. Aericdis ringens (right) is a large tree orchid which flowers in before the rains. It is common in the sholas.

This *shola*, being a part of the reserved forest, and reasonably far from human settlement, was relatively undisturbed. The inside of a *shola* is extremely dark, wet and quiet. The *shola* absorbs water like a sponge, water collects in dead logs, in the soil, in the cavities of tree trunks, on leaves, and somehow it seems to be damp all through the year, even in the driest months. It also acts like a thermostat, remaining at a constant 15-20° Celsius, morning and night, summer and winter. At the same time, the temperature in the adjoining grasslands can vary from 0 to 40° Celsius. The trees are stunted and rarely grow over 15 m., mostly belonging to the families Lauracea, Symplocacea and Euphorbiacea. The undergrowth is extremely dense and small *sholas* often harbour 5,000-10,000 stems per hectare. Most of the trees are small, except for a few large specimens of Cinnamon and *Syzygium*. The ground orchid, *Calanthe*, is common in some *sholas* like the Thai *shola*, and occasionally one sees the bright pink tree orchid, *Aericdis ringens*. The ground is covered with litter and dead logs, and since most *sholas* are found on fairly steep slopes, traversing them is usually a slippery task. At least one and often several streams run through all but the smallest *sholas*.

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my exploration of the *shola*. As I clambered uphill, a sambar crashed away through the forest and later I heard a light thump, perhaps a leopard, but our paths did not cross. Finally, I reached the summit and came out into a little pool of sunlight. In front of me, the grassland rolled towards a valley, where plantations of cabbage and potato replaced it, and several small settlements dotted the landscape.



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There are 30 to 35 species of Cyanotis (above) in the warmer parts of the world. This small but attractive flower belongs to the family Commelinaceae.

Mukurthi

The only part of the Nilgiris that has remained completely untouched is the Mukurthi National Park, which is a small dumb-bell shaped sanctuary on the western side of the Nilgiris. A small pass to the southwest leads down to Silent Valley. The western slopes, amongst the wettest areas in the country, fall steeply to the New Amarambalam forests two thousand metres below. At Upper Bhavani, I cross the dam at the source of the Bhavani river into Mukurthi and follow a winding road to the Western Catchment, crossing *en route* Maduppumalai (hill of folds), with a shola in the valley, and long fingers of shola snaking into each fold. Climbing to the top of the ridge, the vast expanse of sholas and grasslands fall away and ahead of me, looking fabulous. In the dry season, the grassland is brown, almost reddish in the evening sun, but after just a few weeks of rain, the whole landscape turns green. In the Upper Nilgiris, there is no summer and winter, only a wet and a dry season. The dry season, from January to April, doubles as summer and winter, with night temperatures falling to zero, the open areas covered with

ground frost. Day temperatures go into the high 30s, and many grasslands are burnt to a crisp by forest fires. The rainy season from May to December includes both monsoons, and the western slopes get as much as 3,000 mm. of rain. Not a good time to visit!

In the dry season, the dark green patches of forest stand out in stark contrast to the

brown of the grasslands, little crowns of young red leaves interrupt the canopy and flowering forest *Strobilanthus (katu kurinchi)* occasionally break out in pink rashes within the forest. The grassland in the Bangitappal valley is dissected by a meandering stream and dotted with bright red Rhododendron flowers. By the side of the trails on the

The Bangitappal shola in the monsoons. The unique ecosystem of the sholas has given rise to a diversity of plant life.





The rhododendron Rhododendron nilagiricum is a small five or six metre high tree with a rough bark and striking blood-red flowers. South India has just one species of rhododendron, though there are 300 species worldwide. Justicia simplex (below) is a perennial rootstock in the Nilgiris. It flowers from May to September.

grassland are a number of small but bright flowers, which I periodically stop to photograph, to the annoyance of my animal-centric assistant. At the top of the ridge, astonishingly, there is elephant dung, but cresting the top all else is driven from our minds by the sight of the vast plain that stretches out thousands of feet below. Cliffs and ridges spread out on both sides, and one can survey all ahead like a king looking over his kingdom. There is a rumour that on a clear night, one can see the lights of ships on the Kerala coast to the west. Nilgiri tahr, which once populated the slopes in huge herds of over a hundred animals, are today scarce and rarely seen in this part of the sanctuary.

The landscape of the Upper Nilgiris has taken a beating in the past 150 years. However, the natural landscape, where it is still to be found, is one of the most spectacular in the world, especially when the mists roll in over the grasslands and sit like cotton on the forests in their valleys. It still hosts a wide variety of plants and animals, including many endangered and endemic species of tree frogs, pit vipers and mammals such as the Nilgiri

tahr and Nilgiri marten. In a world of highly fragmented forests, the naturally patchy landscape offers an exceptional natural laboratory to study island biogeography and metapopulation dynamics in biological communities. A belated recognition of the importance of grasslands has forced conservationists and the forest

department to concentrate their efforts on the whole landscape, but great care needs to be taken to preserve this national heritage. There is a sense of peaceful isolation at the summit of the blue mountains, which the *shola*-grasslands adorn like a velvet crown, symbolic of all that is rich and important about our world.

