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## Trachycarpus martianus

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If you would like to see *Trachycarpus martianus* in the wild, a good place to begin looking is between the covers of Odoardo Beccari's work on Asiatic palms in the 'Annals of the Royal Botanic Garden, Calcutta'. Published posthumously in 1931, it is still the most recent full taxonomic account of *Trachycarpus*, and summarizes all that was known of the genus at that time, in a very readable form (also see Myron Kimnach, *Principes* 21(4): 155–160). Despite the fact that it was written 80 years ago, Beccari was such a scientist that the information contained in his book is as relevant today as it was when it was published, and is surprisingly accurate in almost every respect.

Under 'Habitat' in the section on *Trachycarpus martianus* we read, "... Rather frequent in the Khasia Hills, between 1,000 to 1,500 m elevation, at Lonkerden and at Noughedem, at Moosmai and Manloo; in the latter locality Sir Joseph Hooker wrote that 'it grows on the cliffs' and 'that it may be seen on looking over the edge of the plateau, its long, curved trunk rising out of the naked rocks, but its site is generally inaccessible' ..."

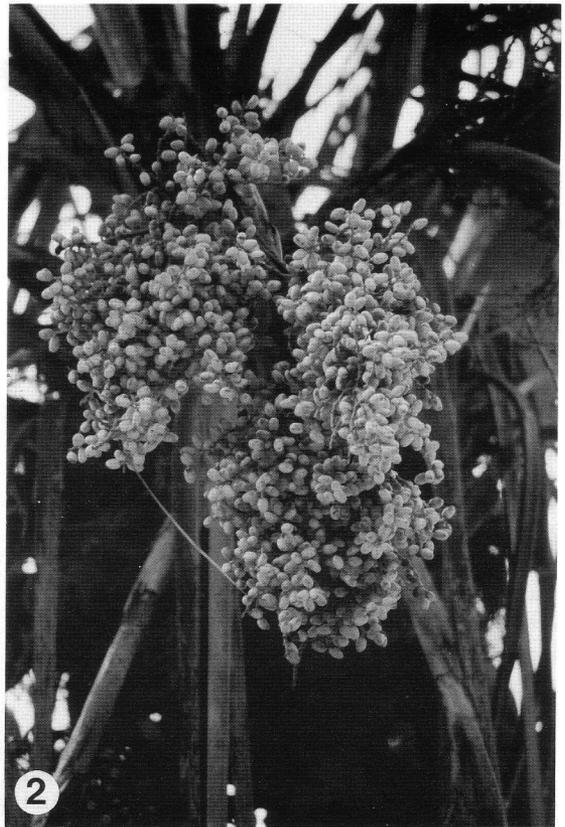
Having seen *Trachycarpus takil* and *T. nanus* in their natural habitat, our next step along the *Trachycarpus* trail had to be towards *T. martianus*, familiar by name, often referred to, and in just about every book on palms, and yet extremely rare in cultivation. In some small numbers at Huntington Botanical Gardens in California, but represented in Europe by but a single mature specimen, in the south of France, and that in a private garden; it seemed time to bring this beautiful tree out of the shadows and into the light.

The Khasia Hills are in Meghalaya Province in remote north-east India. The whole area is 'restricted' and a permit must be obtained before one is allowed to visit. The main town, Shillong, is reached by driving south from Gauhati to which we flew from Calcutta on an Indian Airlines Airbus. The flight is just 45 minutes, but the ensuing bus journey, a fraction of the distance, takes many

times longer. This climb up into the hills was a continuous pattern of overtaking lorry after lorry after lorry, all crawling uphill and all emitting great clouds of thick and poisonous fumes. This pollution hangs heavy on the still air in the otherwise beautiful countryside.

Pollution aside, Shillong itself is a most interesting and attractive town. Once a 'hill station' during the British rule in India, it was, and still is, a cool retreat from the heat of the plains. At 1,500 meters above sea level the weather in October was extremely pleasant, warm but not hot, the nights comfortably cool. There are many examples of colonial architecture in the town, much unfortunately decaying and not maintained. The Pinewood Hotel is a wonderful example. Like an old aristocratic lady fallen on hard times, it presents a brave face to the world, but time has moved on and passed it by. These days air conditioning and television-in-every-room and mini-bars are more important than ballrooms and verandahs and tiffin and punkah-wallahs. However, in the nicely maintained grounds (lawns, flower beds, and huge *Araucaria*), we saw our first *Trachycarpus martianus*, two tall and beautiful trees, one shown (Fig. 1).

We were to see many more in the town, often outside public buildings, one outside the extraordinary Roman Catholic Cathedral, art deco gone mad. Ward's Lake Garden in the center of town boasted another dozen. They really are beautiful trees; visibly distinct from all other *Trachycarpus* and yet the relationship is clearly seen. *T. martianus* has a comparatively large crown of regularly divided leaves with a strong, whitish bloom on their lower sides. Most have naturally bare trunks, and the fibers from the old leaf bases cover just a foot or two below the crown; old leaves can be pulled off with a minimum of effort. This, however, is not a reliable feature for identification since other *Trachycarpus* species can also shed their fibers naturally, or indeed they may be stripped. Also we came across one or two trees in



1. Colonial echoes: A mature specimen of *Trachycarpus martianus* at the Pinewood Hotel, Shillong. 2. A single infructescence of *Trachycarpus martianus* contains up to 1,000 seeds.

the garden which had fibers right down to the ground, so there is clearly some variability here.

What is a reliable identification characteristic, however, is the fruit and seed which is the size and shape of a coffee bean rather than kidney-shaped as in every other member of the genus. All of the female trees we saw had clusters of bright yellow fruit hanging down from within the crown (Fig. 2). We estimated 6,000 seeds on the six infructescences of a single tree. It is a terrible shame that there are so few young plants. All of these mature trees have been producing seeds in these huge quantities for 50 years or more, countless millions of seeds all gone to waste. Presumably, when these old trees die, there will be no more *Trachycarpus martianus* in Shillong, and the town will be the poorer for it. Curiously, even officers at the Forestry Department in the town were hardly aware of its existence, even though there were a dozen or more scarcely a minute from their office. They were totally unaware of its existence in the wild.

Having inspected and admired every cultivated tree we could find, we were naturally impatient to look for wild specimens. We rented a car-and-driver and with 'Beccari' clutched firmly in our hands we set off to follow his directions, written 80 years previously. Heading south from Shillong, we soon cleared the town and drove through an undulating landscape, densely forested with *Pinus khasia*, gradually changing into a totally deforested hilly plateau, some 1,400 m above sea level. Around 80 km from Shillong we reached the town of Cherrapunjee, one time record-holder as the wettest place on earth, with an annual 12 meters of rain. There was certainly no rain on the day that we were there, though, and we had a clear, fabulous, and unexpected view of huge cliffs, disappearing down into the valley below us. Not far from 'Cherra' near the village of Mawsmi (Beccari's Moosmai) there were more such cliffs, which apparently marked the southern edge of the plateau (Fig. 3).

In contrast to the hilly plateau across which we



3. Steep cliffs protect the habitat of *Trachycarpus martianus*. 4. *Wallichia densiflora* was not uncommon in the undergrowth.

had been driving, which was mainly grassland with the occasional *Pandanus* thicket left in ravines and depressions, the cliffs and lower slopes were densely forested. Though we saw other palms there (at least two species of *Calamus*, *Caryota*—the Fish Tail palm—and a curious *Arenga*-like species we were not able to identify until later) there were no *Trachycarpus* to be seen. Somewhat disappointed, at Manloo (today spelled Mawmloo) we decided to drive further down the road which began to descend steeply in hairpin bends, and, we could tell from the map, eventually ended up in Bangladesh which we could see, lake covered, in the blue and hazy distance. As we went down, the temperature went up, and the vegetation became more tropical. More palms began to appear, and bananas and tree ferns. We again saw *Caryota*, with huge, flatly-held leaves in the manner of the giant *Caryota* from Thailand and southern China, and a little further down at around 1,000 m a.s.l. a second tall, slender Fish Tail palm with quite different leaves in a tumbling habit, possibly *Caryota maxima*, growing together with greater numbers of *Calamus*, later identified as *C. erectus*, in full but unripe fruit. We were also very pleased to find *Wallichia densiflora* (Fig. 4) which perhaps should have given us a clue as to the identity of the mystery palm from before, which turned out to be no less than *Wallichia disticha*, not previously recorded for the Khasia Hills, with its unique, 2-ranked arrangement of leaves (Fig. 5). Palm hunting has to be done carefully here: huge yellow and black spiders as big as your hand sit patiently in webs the size of dinner tables slung between shrubs, waiting for the unwary to stumble in for lunch.

Lest we should end up like the road, in Bangladesh, we turned round in a tiny village and after having some 'chai'—hot, sweet and milky tea served in a glass—set off back up to Mawmloo.

Delighted with our findings but concerned about the apparent absence of *Trachycarpus martianus*, we asked the driver to take us to Nohkalikai Falls, just west of Mawmloo. We should not have worried, for a few miles further on, looming out of the mist that was now gathering as the day drew on, we saw them. First one, then many.

They were growing on the very edge of a precipice that we could not see down into because of the mist. We could hear the distant roar of a waterfall, but frustratingly had to return the following morning to see more.

The sun shone bright and clear as we drove back to the same spot the next day. What we had been unable to see was now revealed: the cliffs on the edge of which we were standing were some 300 m (1,000 feet) almost straight down. The waterfall we had heard was half-a-mile away at the head of the valley and the water cascaded in free fall for many hundreds of feet, creating a rainbow with the spray. We could look across the gorge to see the identical cliffs on the far side, and huge butterflies were idly casting themselves out into the void. It really was a magical place. At the base, where the cliffs themselves moderate into a steep slope, densely forested with small epiphyte-covered evergreen trees, we could spot *Wallichia disticha* and that huge, broad leaved *Caryota* again, which formed a conspicuous component of the forest canopy.

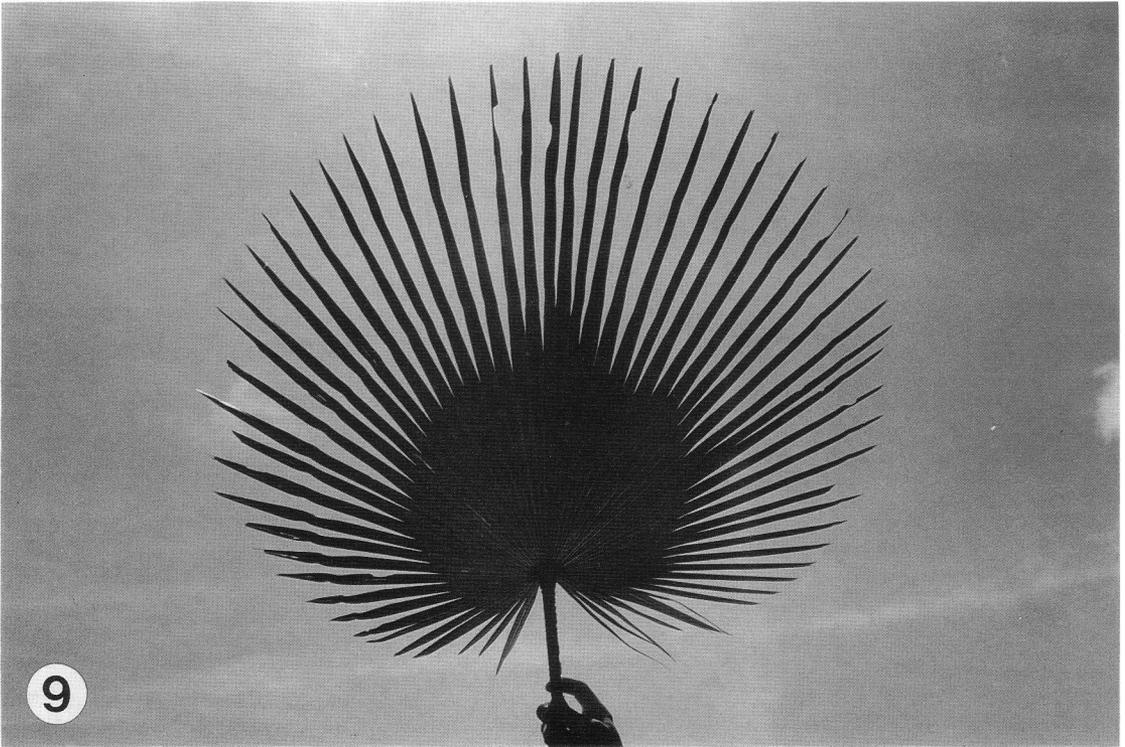
And we saw *Trachycarpus*! By the dozen and by the hundred! They were growing, just as Sir Joseph Hooker had reported, out of the bare rock, on ledges and in cracks on the south-facing cliffs, absolutely inaccessible. Even a mountain goat would need climbing gear. It occurred to us that we were undoubtedly standing on the very spot where Sir Joseph had stood 80 years previously (Fig. 6). The rock itself was dark, soft and crumbly, consisting of baked together quartzite sand, and not limestone as we had expected. The soil was sandy and strongly acidic with a pH of only 4–5.

And were they beautiful! The original trees we had spotted from the car were very much closer; indeed, by leaning out slightly over the brink we could actually touch them, though to collect seeds and herbarium specimens would have required some ingenuity with poles and wire secateurs, as well as a head for heights.

Their trunks were growing straight out, or sometimes curiously bent away from the cliffs. Although a few younger plants had their trunks entirely covered, the coarse and loose, light brown

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5. *Wallichia disticha*, not previously recorded for the Khasia Hills. 6. *Trachycarpus martianus* in habitat on the precipice edge, Nohkalikai Falls. 7. *Trachycarpus martianus*: the leaf bases abscise naturally, leaving an attractive, ringed trunk. 8. *Trachycarpus martianus*: thick white tomentum covers the young leaves and petioles.





9. The unmistakable silhouette of a *Trachycarpus martianus* leaf.

fibers of the leaf bases persisted only just below the crown in adult trees, and under this a slender, smooth trunk was revealed with clearly visible, closely-spaced leaf scars (Fig. 7). The young petioles and unexpanded leaves were covered in dense white tomentum (Fig. 8). The leaves themselves were large, approximately 120 cm across, mid-green above, strongly glaucous below and very regularly split to about half way, into sometimes more than 75 stiff, erect segments, shallowly bifid and acute at the tip, presenting a distinctive, indeed unmistakable, silhouette (Fig. 9). A unique feature of *Trachycarpus martianus* leaves is the small transverse cross-veins which run from one longitudinal leaf vein to another. These cross veins are much clearer than on other *Trachycarpus* species

and are apparent even on seedlings and 100-year-old herbarium specimens. Petioles as well as inflorescences (up to eight on a single tree) were considerably shorter and more erect on these trees than on the cultivated plants we had seen in Shillong and gave the palms a much more compact and wind-resistant appearance.

Though *Trachycarpus martianus* seems doomed through lack of interest in the town, its future in the wild seems as solid as the rocks on which it grows. Because of the inaccessibility of its habitat it is safe from those who would cut it down for firewood, or for building, and it is equally safe from goats, the scourge of so many endangered palm species. Long may it remain so.