

Mount Fansipan, northern Vietnam

Last year CHRIS CALLAGHAN travelled to Vietnam for a reconnaissance of the tallest mountain in the country, in search of a rare endemic fir.

In February 2007, my colleague, SK Png and I from the Australian Bicentennial Arboretum (ABA) flew from Singapore to Hanoi with the plan of climbing Mount Fansipan (Phan Si Pang), at 3143m Vietnam's highest peak, in the hope of seeing the endemic *Abies fansipanensis*, recently relegated to a subspecies of *Abies delavayi* which occurs across the border in Yunnan Province, China.

This vulnerable fir, the southern-most in the Eastern Hemisphere, occurs scattered throughout the forest on the steep slopes and ridges of Mt Fansipan between approximately 2600 to 3000m altitude. It is nationally assessed as rare with a proposed upgrade to vulnerable, due to its small population size, limited distribution range and vulnerability to mountain forest fires. Formerly this fir was included under *Abies nukiangensis* and *Abies delavayi* var. *nukiangensis*, a taxon which is native to north-west Yunnan.

While in Hanoi, one of the world's most beautiful cities with its many lakes, grand French colonial mansions and public buildings, and wide tree-lined boulevards (*Tamarindus indica* and *Terminalia catappa*, etc.), we visited the Hanoi Botanical Garden founded over a century ago.

Here, many of the large trees we saw are well adapted to Hanoi's tropical monsoon climate with a hot wet season from May to September, maximum 40°C, interspersed by a cool dry season with a minimum of 5°C, the average rainfall being 1800mm (70.8 inches).

Those trees we saw included three *Dipterocarpus* species (a gigantic specimen of *D. alatus*, also *D. imbricatus*, *D. retusus* subsp. *tonkinensis*), *Diospyros embryopteris* (syn. *D. malabarica*, the Malabar ebony related to the persimmon), *Mangifera foetida* (the horse mango, a relative of the well-known Indian mango *M. indica*), *Sterculia foetida* (Indian almond or skunk flower tree related to Australia's Kurrajongs, now reclassified from *Sterculia* to *Brachychiton*), *Roystonea regia* (Cuban royal palm), *Dimocarpus longan* (dragon's eye), *Swietenia macrophylla* (broad-leafed or Honduras mahogany), *Peltophorum pterocarpum* (yellow flame), and Malaya's *Millingtonia hortensis* (Indian cork tree).

We saw many other trees new and unfamiliar to us but did recognise *Celtis sinensis* (Chinese hackberry), *Delonix regia* (flame of the forest or royal poinciana), *Livistona chinensis* (Chinese fan palm), *Cinnamomum camphora* (the camphor laurel, a well-known planted tree in many countries) and *Taxodium distichum* with its characteristic aerial knees rising from the roots, the last three being the only plants we saw here that grow also at the ABA.

That evening we boarded a train for the 7.5-hour overnight trip to Lao Cai on the Vietnamese-China border. Disembarking early morning we caught a mini-bus for the climb out of the Red River valley to the resort town of Sapa, a

former French hill station at 1650m facing the Hoang Lien mountain range to the west across the 400 to 500m deep Muong Ho river valley.

Over the next two days we explored this beautifully situated, picture-postcard township where many ethnic minorities from surrounding villages come to buy and sell at the popular markets. The view over the town is often dramatic with swirling mists punctuated by the towering columnar crowns of *Araucaria* trees (probably *A. cunninghamii* from Australia or *A. columnaris* from New Caledonia, although if the latter, none were observed with the distinct sideways lean as seen in Sydney and elsewhere).

Near the Sapa Information Centre are specimens of what we now believe may be *Taiwania* (?) which occurs further south in the Hoang Lien ranges (*T. flousiana* occurs in the cross-border region of China's Yunnan and Burma, while the type of the genus *T. cryptomerioides* occurs on the other side of China on the island of Taiwan). I regret not studying those at the Information Centre more closely in the little time available.

We then drove with our hired guide about 18km into the mountain range on the only road over the 'Tonkin Alps', alighting at Sky Gate aka Heaven's Gate, the entrance to the Hoang Lien National Park situated just prior to Tram Ton Pass, Vietnam's highest pass at 1950m.

The driver ignored our request to stop at the famous Thac Bac Silver Waterfall about 2km further back, which is said to be over 100 m high.

The park encompassing 29,845ha was established as the Hoang Lien Nature Reserve in 1994 to protect and preserve the many rare and endemic plant and animal species within the remaining sub-tropical and temperate forest ecosystems inside its boundaries. It was upgraded to National Park status in July 2002.

Around 73% of the park area is forested, over 65% of this being well-preserved natural forest which is little disturbed by human activities (Le Van Lanh, et al. 2004), although a 1995 report by Kemp, Chan and Dilger put the natural forest at only 10,000ha, the balance having been cleared for cultivation before the establishment of the reserve (there are five ethnic hill-tribe minorities living within the park).

The highest temperatures recorded in the park are around 30°C and the lowest about -6°C, both roughly 10°C cooler than for Hanoi, with snow falling some years in the coldest months on the highest peaks and even occasionally in Sapa, the average annual rainfall in the mountains being around 2770mm. Apparently drought is unknown with the lowest recorded rainfall in the park area over 2000mm and the mountains covered in cloud and mist much of the year.

After paying our park entrance fee at the ranger's station where rows of *Cunninghamia lanceolata* (China fir) have been planted, we began our trek into the mountains following a rocky path that meandered around the slopes of the mountain sides, some thick with forest, others without forest cover due to past forest fires, and later followed a mountain stream for some distance. As we had to reach our campsite at 2200m before night fall we were proceeding



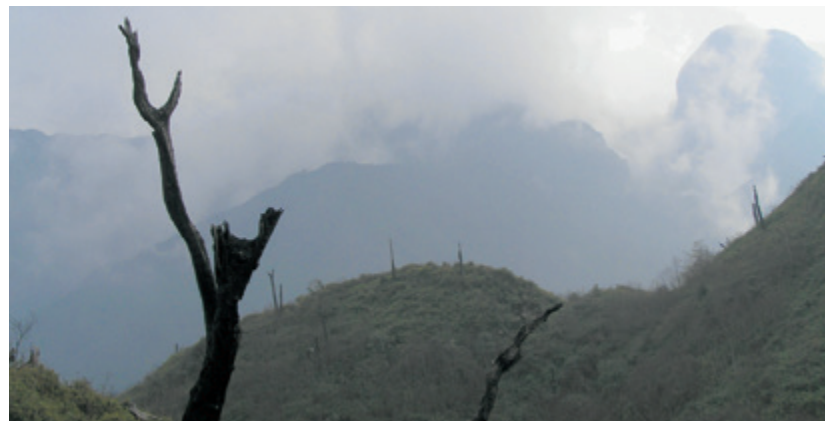
Hoang Lien Range and Mount Fansipan with Sapa in foreground.



Tree trunk hollowed by long-past fire.

at a brisk pace and therefore had little time to check the identity of the forest trees we were passing through, observing instead the smaller plants such as an evergreen blackberry (*Rubus lineatus*), a *Rhododendron* species and seedlings of *Acer flabellatum*, the parent tree obscured by the forest.

Climbing away from the stream in the afternoon we entered an area where numerous trees were labelled many years before, many of the metal name plates slowly deteriorating with rust from the high precipitation and humidity, often over 90%, of the mountains. We were however able to decipher and list the following taxa:



Misty forest clad slopes of Fansipan with burnt-out area in foreground.



The silvery undersides of an *Amentotaxus* species leaves.



Normally deciduous maple seedlings retaining their leaves through winter.



One of the few fir seedlings surviving bamboo competition above the leaf litter.



Abies delavayi subsp. *fansipanensis* leaves showing recurved margins.

- *Castanopsis echinocarpa* (porcupine oak-chestnut)
- *Gordonia longicarpa*
- *Magnolia cathcartii*
- *Neolitsea ellipsoides*
- *Rhododendron crenulatum*, *R. sp.* (possible a subspecies of *R. arboreum?*), *R. klossii* (Kloss rhododendron), *R. tanastylum* (macro-stylous rhododendron)
- *Ternstroemia chapaensis* ('Chapa' was probably the old spelling for Sapa?)
- *Acer brevipes* (short-stalked maple)
- *Quercus blakei* (thin-leafed oak)
- *Elaeocarpus sylvestris*
- *Rhodoleia championii*
- *Illicium petelotii*
- *Vaccinium dunalianum* (Himalayan blueberry)

Other trees had their names totally obliterated from the signs. I am assuming that these trees are representative of the sub-tropical to cool temperate rainforest found at the middle altitudes (1700 – 2400m) of these mountains and are a natural congregation here.

After a short climb to our campsite where we spent a stormy night in a forest clearing surrounded by large trees of *Acer flabellatum*, *Rehderodendron macrocarpum* and others, we set off the next morning in glorious sunshine on the final ascent of the mountain. Winding around the mountain side we dipped into a valley where many cardamom plants were thriving.

Following the valley we were soon confronted with a near vertical climb up an eroded path, using tree roots to haul ourselves up. For some distance from here one's concentration was needed to avoid slipping off the treacherously unstable path and detours were necessary where sections had dropped away into the valley below. Here and there were glimpses of glorious views of the distant mountain ranges through gaps in the forest canopy and then the mist descended, making it difficult to keep up with our agile mountain guide who often disappeared from view.

Rounding a bend at about 2850m the mist lifted momentarily and eureka! we caught sight of our first *Abies delavayi* subsp. *fansipanensis* on a steep slope ahead to our right, some 100m from the track. We warily traversed the slope utilising bamboos for support and were soon at the base of a mature fir tree of about 20 to 25m in height. Others could be discerned looming in the mist around this area.

It was noted that there were few seedlings present due to the low-light conditions afforded by the surrounding dense canopies of the broad-leafed evergreen and deciduous trees plus the competition from the bamboo (*Sinarundinaria griffithiana?*), and no doubt numerous seedlings that may have germinated ultimately perished under the deep litter of decaying leaves. These are likely reasons which partly explain why broad-leafed angiosperms gained ascendancy over conifers in the past and is a trend continuing today as witnessed on a recent visit to Japan where the rare tiger-tail spruce, *Picea torano* (syn. *P. polita*) was recruiting few juveniles due to the seedlings being buried

under the mass of autumn foliage which on the moist forest floor was stuck together as if glued.

Returning to the track we climbed to about 2950m, noting more of the fir scattered throughout the forest. Soon we met two Scandinavians from our camp returning from the 'Roof of Indo-China', who informed us that mist at the summit prevented them seeing more than a few metres, when on a clear day panoramic views into China to the north and Laos to the west could take your breath away. They also mentioned that light snow was falling on the peak.

By then too late to make the summit, we retraced our steps back to camp, consoling ourselves in having seen the rare Fansipan fir, the reason for our climb, and determined to approach the Vietnamese authorities with the offer to establish an ex-situ planting of this fir at our own mountain-top arboretum where with ideal conditions are now cultivated about 75% of the world's species of *Abies*.

After a celebratory candle-lit dinner with our guide, the porters and fellow campers at base camp, we began next morning the long trek down the eastern flank of the Hoang Lien mountain range on our way to Sapa.

Following the undulating ridge line, we observed a further *Acer sp.* and unknown species belonging to the following genera - *Buddleja*, *Lindera*, *Schima* (?), *Cornus*, *Luculia* and *Michelia* (*M. foveolata*, *M. chapensis* and *M. lanuginosa* are present in these mountains).

At 2040m, we encountered a small tree of the monotypic conifer *Fokienia hodginsii* which has become quite rare between 1000 and 1700m where formerly it was in large quantities before being illegally exploited. It is said to still be numerous between 1700 and 2400m, but was either unnoticed off the track or occurring in a different area to that traversed.

We were disappointed not to have seen *Liriodendron chinense* which occurs above 1700m. Also accepting that it was winter and our prime interest was the trees and shrubs, the wildlife on the mountain was conspicuous by its absence. Apart from two apparently domesticated water buffalos encountered a few hours after entering the park, we saw only one bird and a large horned beetle during our three-day reconnaissance.

On our last day in Sapa, we visited the Sapa Botanical Garden with a superb view overlooking the town, plus an excellent view on a clear day of Mount Fansipan, which we failed to see as the mountains were once again shrouded in mist.

Here on Ham Rong Mountain peak close by town is a myriad of natural sculptured limestone karst formations interspersed by pathways with steps leading down narrow passageways eroded between these formations.

Flourishing abundantly throughout this natural wonderland are many native flowers, trees and shrubs, a fairyland and an enchanting sight.

Here we saw *Aesculus wangii*, a horse-chestnut native to China and this area, devoid of leaves for the winter. We also noticed a potted specimen of an



SK and Kha, our ethnic minority guide, on a ridge overlooking Fansipan's eastern flanks.



A local young vendor in the Sapa Botanical Garden.



One of numerous tree identification signs in an area of the forest.



Abies delavayi subsp. *fansipanensis* with rachis of disintegrated cone at 2860m altitude.



Beautiful tracery on a burnt tree-trunk.



A small tree of the once common *Fokienia hodginsii* now increasingly hard to find.



Breathtaking World-heritage listed Halong Bay, east of Hanoi.

Amentotaxus sp. with remarkably broad silver stomatal bands on the reverse of the leaves. Although not seen by us, *Amentotaxus argotaenia*, the catkin yew, is listed as occurring in the Hoang Lien National Park, as is *A. yunnanensis*. However the plant seen in the Botanical Garden has broader leaves than mentioned for both species (Rushforth, 1987).

We returned to Hanoi on the night train and then recuperated and rested our weary feet during a two-day cruise of the World Heritage listed Halong Bay, justifiably acclaimed for its natural beauty with the mirror-like sea studded by thousands of islands and rocky outcrops towering above the cruise ships and traditional junks. Most of these islands and outcrops were topped by trees and shrubs appearing as bonsais from a distance.

And so, as they say, all good things come to an end, with only the photographs, souvenirs and memories to relive them by.

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