

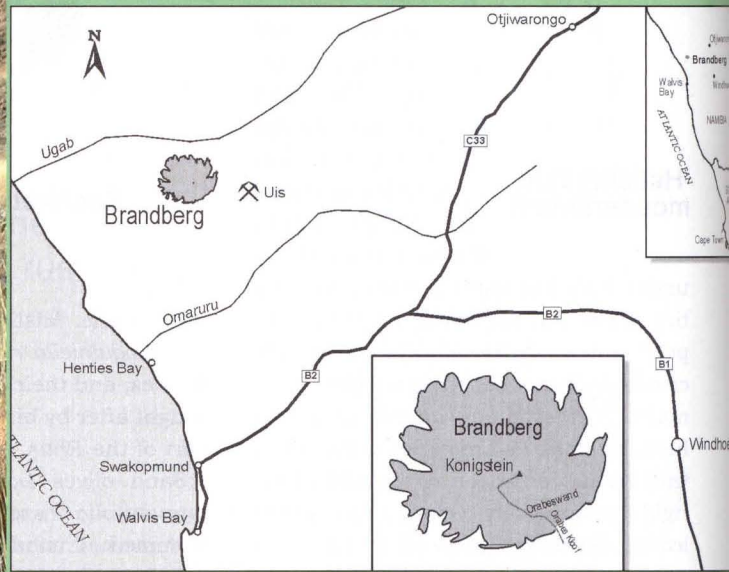


LEFT: The Brandberg with *Welwitschia mirabilis* in the foreground and the cliff face of Orabeswand in the background. Photo: Ernst van Jaarsveld.

BELOW: Map of Namibia showing the location of the Brandberg.

Map: Sally Adam, Technodraft.

BELOW LEFT: The brosblaarplakkie *Adromischus schuldianus* growing in crevices on Orabeswand, which is a conspicuous cliff face. Photo: Ernst van Jaarsveld.



The Burning Mountain

An expedition to the Brandberg in Namibia in search of the endemic Brandberg plumbago.

by Ernst van Jaarsveld, Kirstenbosch, and Werner Voigt, Karoo National Botanical Garden



The Brandberg, an extinct volcano in north-western Namibia, is an isolated massive inselberg, 23 x 25 km, completely surrounded by desert. Rising from the Namib Desert floor, about 60 km from the coast, its highest peak, Königstein, is 2573 m above sea-level - the highest peak in Namibia. (The second highest is Auas at 2479 m, just south of Windhoek.) The Brandberg is well known for its rich archaeological sites and San art (the 'White Lady' for example). The name Brandberg means 'burning mountain' in Afrikaans, and is a translation of the indigenous name 'Daures' (according to Kinahan*). Like so many other Afrikaans place name in southern Africa, it is a translation of a Khoi or San name.

This well-known landmark has a very different climate to its surrounds, as it receives more rainfall and fog from the Atlantic Ocean on its upper peaks. Standing on the main massif at about 2000 m the vegetation is not unlike that of the Khamiesberg. In fact many typical Namaqualand genera occur here too: *Othonna*, *Felicia*, *Osteospermum*, *Mesembryanthemum* and *Tetragonia* to mention a few. This isolation or 'island effect' has resulted in the evolution of many unique life forms including eight endemic plants.

The flora

Our interest in the Brandberg is its vegetation. Although situated north of the tropic of Capricorn and thus well with-

in the tropics, it is influenced by fog caused by the cold north-flowing Benguella Current of the Atlantic Ocean. The foothills are typical desert with many tropical desert species like *Welwitschia mirabilis*, *Petalidium*, *Commiphora* and *Aloe asperifolia*. With an increase in altitude, rainfall increases and temperature declines and it is on the higher peaks that our interest is focused.

When I first came to Kirstenbosch in 1976, my predecessor Walter Wisura left me a number of papers, one of them the original description of the plant *Plumbago wissii*, a shrub with narrow leaves and tubular violet flowers - the Brandberg plumbago. The genus *Plumbago* is horticulturally well known for South African species such as *Plumbago auriculata* and *P. zeylanica* and being interested in southern African plants with horticultural potential and having seen the original description and illustration of the Brandberg plumbago, this plant intrigued me.

I just never could find the time to investigate further. Then, whilst planning expeditions for my doctoral thesis study of cliff faces, my promoter, Professor Braam van Wyk, suggested we visit the Brandberg to investigate its cliffs. Here was my chance.

When Mr H. J. Wiss discovered the plant in 1955 he was part of a three-week archaeological expedition, during which he managed to collect some plants too. He was the only person collecting plants and two of these plants, *Plumbago wissii* and *Mentha wissii* (today *Mentha longifolia* subsp. *wissii*) were later named in his honour. Wiss published the first account of plants he came across on the Brandberg in the *Journal of the S.W.A. Scientific Society* in 1957.

Bertil Nordenstam from Sweden, realizing the lack of botanical knowledge about the Brandberg, explored the mountain in 1963 and 1964 and published his very useful and detailed account 'Flora of the Brandberg' in *Dinteria* (vol 11, 1974). This was the first checklist of the Brandberg flora to be published, and contained a description of five new species.

The last account 'Flora of the Brandberg, Namibia' was by Patricia and Dan Craven in 2000 (memoir 9, in *Cimbebasia**). This useful book gives an up to date checklist of all the plants encountered up to the end of the last century.

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An illustration by Elbe Joubert of the Brandberg plumbago *Plumbago wissii* from live plants collected on Konigstein.



The expedition

The Brandberg expedition was specially planned to take place during autumn when there would be a good chance of rain. Water is the most important commodity on a trip to such a dry place and proper planning is thus essential.

Preparation should not only include the physical planning of food and camping gear, but mental preparation is also most important. You have to first conquer the idea. Climbing the Brandberg is strenuous and hard work, as one has to deal with the intense heat on the bare granite slabs and boulder obstacles on the mountain, so being fit is quite important.

A good 1:50 000 map is essential to ensure good orientation.

We planned to take a day from the base to our proposed camp site at 'Longipoolies' at about 2000 m. Joining us were Carel Haumann and Anton Cilliers both experienced mountaineers and doctors to attend to any health problems, and Steven Carr, a horticulturist from the Botanical Gardens in Windhoek.

Terrence April, a nature conservation student, Henk, my son, Adam Harrower, Jaques Ellis, Lauren Malonic and international students Hazel Hodgen and Le-anna May also joined the expedition. As not one of us was familiar with the mountain, Ds Thys van der Merwe, who would have accompanied us, arranged for Pikkie Hoffmann, a social worker of the local N.G. Kerk, to accompany us instead.

Pikkie knows the Brandberg like the back of her hand and we were privileged to have her as our guide.

Our expedition left Cape Town on Friday 28 March and we reached Windhoek the next afternoon. Early on Sunday morning we picked up Pikkie and left for Uis Mine near the Brandberg, arriving there at about midday after picking up last minute provisions. We set up camp at Orabes Kloof at the base of the Orabeswand, which is a conspicuous cliff face.

The terrain is typical desert complete with the characteristic clicks of barking geckos (*Ptenopus garullus*) at dusk. *Welwitschia mirabilis*, rock corkwood *Commiphora saxicola*, oak-leaved corkwood *C. wildii* and many species of tongklapper *Petalidium* and grass occurred in the area. We were not sure whether we would find water and most of us carried between 10 and 12 l each for the three days planned on top.

We left at six in the morning and worked our way up the Orabes Kloof. Along the way the well-known Brandberg thorn (*Acacia montis-usti*) became conspicuous, as did various *Commiphora* species such as slender corkwood *C. virgata*, blue-leaved corkwood *C. glaucescens* and again the oak-leaved corkwood *C. wildii*. The terrain consisted of steep, bare, massive granite slabs that made walking quite difficult. The drainage lines contained subtropical bushveld and desert elements and the crevices were filled with lithophytes, and succulents were quite common. To my surprise, the Namaqua jackal berry *Diospyros acocksii* shrub was quite prominent in the fissures: one of the many Namaqualand plants shared with the Brandberg. Other tropical elements we regularly came across included the impressive thick-stemmed phantom tree *Moringa ovalifolia*, the large-leaved star-chestnut *Sterculia quinqueloba* as well as the striking white-stemmed African star-chestnut *S. africana*.

Half way up we came across quiver trees *Aloe dichotoma*, laurel figs *Ficus ilicina* and gifnoors *Euphorbia virosa*, and the resemblance to the vegetation of the Khamiesberg in Namaqualand became more striking. The cliffs had few crevices and generally not many cliff dwellers.

What did occur here included a narrow leaved form of the brosbelaarplakkie

Half way up we came across quiver trees, laurel figs and gifnoors, and the resemblance to the vegetation of the Khamiesberg in Namaqualand became more striking.



LEFT: The impressive kobasboom *Cyphostemma currorii* at Watervalvlakte. Photo: Ernst van Jaarsveld.

RIGHT: The mopane aloe *Aloe littoralis* is widespread but not common on the mountain.

BELOW: The Brandberg acacia *Acacia montis-usti* in the Orabes Kloof.
Photos: Ernst van Jaarsveld.



Adromischus schuldianus and klipsalie *Aeollanthus neglectus*. The Angola nettle *Obetia carruthersiana* has large leaves resembling our mountain nettle *Obetia tenax* but with greyish leaves. We had to be careful as its chemical defences cause intense burning - fortunately only temporarily. We reached the top by midday and made for Longipoolies the largest and closest drainage system and thus the best chance for us to find water. We were amazed: there were huge pools and a running stream.

Taking advantage of the water were marginal aquatics such as the clover fern *Marsilea* and the Gariep sage *Salvia garipensis* (another Namaqualand plant) that was in flower. We looked for the Brandberg mint *Mentha longifolia* subsp. *wissii* (which also occurs in Namaqualand!) but without success. After we set up camp next to the river on a bare flat patch, we inspected the area - Pikkie showing us some bushman paintings. The escarpment top was well watered and green with the conspicuous Damara bottlebrush *Euphorbia monteiri* subsp. *brandbergensis* very much in evidence.

The Namibian wild pear *Dombeya rotundifolia* var. *velutina* was in flower. This differs from the larger South African *Dombeya rotundifolia* var. *rotundifolia* in its different flowering time and shrubby habit. We saw them regularly. The laurel figs were quite common and the Namaqua rock fig *Ficus cordata* only occasionally spotted. Another plant quite common on the Brandberg is the kobasboom *Cyphostemma currorii* also called botterboom (butter tree).

These are impressive short, thickset succulent-stemmed deciduous trees 2.5-4 m high with peeling bark. They somewhat resemble the other botterboom *Tylecodon paniculatus* which, in contrast, is summer deciduous. This parallel trend is quite remarkable.

Bees in arid regions are more aggressive and we soon discovered an aggressive colony near our campsite, which we kept well away from.

Sleeping under the stars on bare granite was a great experience. The heat absorbed during the day is slowly released in the night, and having a warm 'rock blanket' from below is really very pleasant. Fortunately it wasn't

too hot or cold at this altitude, but other problems arose during the night. I woke up in the middle of the night to find a mouse nibbling at my finger, then heard the activity of many mice. On investigation, I saw our supply of light weight food slowly being dragged away to inaccessible nests underneath the granite slabs! We took immediate action and packed it all up.

Konigstein

We left early for Konigstein the next morning, all excited, with our main purpose in mind - to look for the Brandberg plumago. Pikkie first took us to Watervalvlakte and the Snake Cave with its incredible San art including an illustration of a python and a quiver tree *Aloe dichotoma*.

The terrain resembled the renoster-veld of the Khamiesberg in Namaqualand, and even the smell of Dinter's wild rosemary *Eriocephalus dinteri* was similar. *Osteospermum muricatum*, verbyloopbos *Pegolettia oxyodonta*, *Leysera tenella* - all plants we are so familiar with in Namaqualand - were present. Scattered about was another familiar tree, the Namib resin tree locally



LEFT: The Nama bottlebrush *Euphorbia monteiri* subsp. *brandbergensis*. Photo: Ernst van Jaarsveld.

BELOW LEFT: Signing the visitor's book at Konigstein Beacon: from left, Steven Carr, Ernst van Jaarsveld, Hazel Hodgen, Pikkie Hoffmann and Anton Cilliers. Photo: Henk van Jaarsveld.

BELOW RIGHT: The Brandberg beeskloutjie *Lithops gracilidelineata* var. *brandbergensis*. Photo: Ernst van Jaarsveld.



known as slangvelboom *Ozoroa crassinervia*, a beautiful tree with dark, rough bark.

Adam Harrower badly wanted to see the Brandberg beesklou *Lithops gracilidelineata* subsp. *brandbergensis* but due to its excellent camouflage and the fact that we did not know its distribution on the Brandberg, we thought our chances of finding it were slim.

But as we came closer to Konigstein we passed a rocky but gravelly patch and our intuition made us look and - surely - there they were! We spotted a few plants and after photographing them, left for our last lap.

We could see the beacon at Konigstein and Henk my fifteen-year old and the youngest member, as always bouncing with energy, was

rushing ahead with me trying to slow him down and Pikkie was worrying about keeping the stragglers together as getting lost in this terrain is not a joke! As we were ascending Konigstein, to our great joy, *Plumbago wissii* was spotted.

It is not always that one finds one's target plant. We had come far and worked hard and thus were greatly rewarded with the plumbago's range of colour forms. The bushy shrubs are about 60-80 cm tall with narrow somewhat fleshy but soft leaves. They just resembled another fynbos plant, growing in rocky terrain. The plants are stoloniferous (bearing runners) and are thus adapted to re-sprout after fires.

We collected cuttings and seed: our mission now successful but not yet

over. After taking photographs we left for the beacon. I was amazed to find the Namib day gecko (*Phelsuma*), a tropical diurnal gecko, so active at such an altitude. It must be the thermal heat of its rocky habitat that gives it the advantage. At the beacon it was photograph time and to our amazement, there was a book to sign and Memoir no 9 of *Cimbebasia** that had been left there by one of its authors for visitors to read.

At this altitude we could see the influence of the increase in rainfall. *Othonna brandbergensis* graced many crevices and the fragrance of crushed watersalie or iboza *Tetradenia riparia* leaves wafted around in the cool mid-day breeze. Other plants spotted included dawidjies *Antizoma miersiana*,

tjenkerientjee *Ornithogalum pulchrum*, nama-angelierjtjie *Dianthus namaensis* and the prickly raak-my-nie-aan bos *Codon schenckii*.

On the way back to Longipoolies, the eagle-eyes of Adam spotted another mesemb, the meerkatvygie *Hereroa puttkameriana*, growing in small tufts among the gravel pebbles. We also came across the African ruta *Thamnosma africana*, a highly aromatic shrub with an aroma similar to that of the medicinal wynruit *Ruta graveolens*, found in so many farm herb gardens.

At the waterfall flats Pikkie first took

us to Lion cave, so named because of the San painting of a lion. Here among the rocks to our surprise we also found *Plumbago wissii*. Other conspicuous succulents included the mopane aloe *Aloe littoralis*, Herero aloe *Aloe hereroensis*, Khomas aloe *Aloe viridiflora* and the grey-white leaved pig's ear *Cotyledon orbiculata*.

One of my boots started giving trouble, and we eventually arrived back at Longipoolies rather tired, and very hungry.

That night there was very little food left for the mice! Carl and Anton helped with all sorts of foot and stress com-

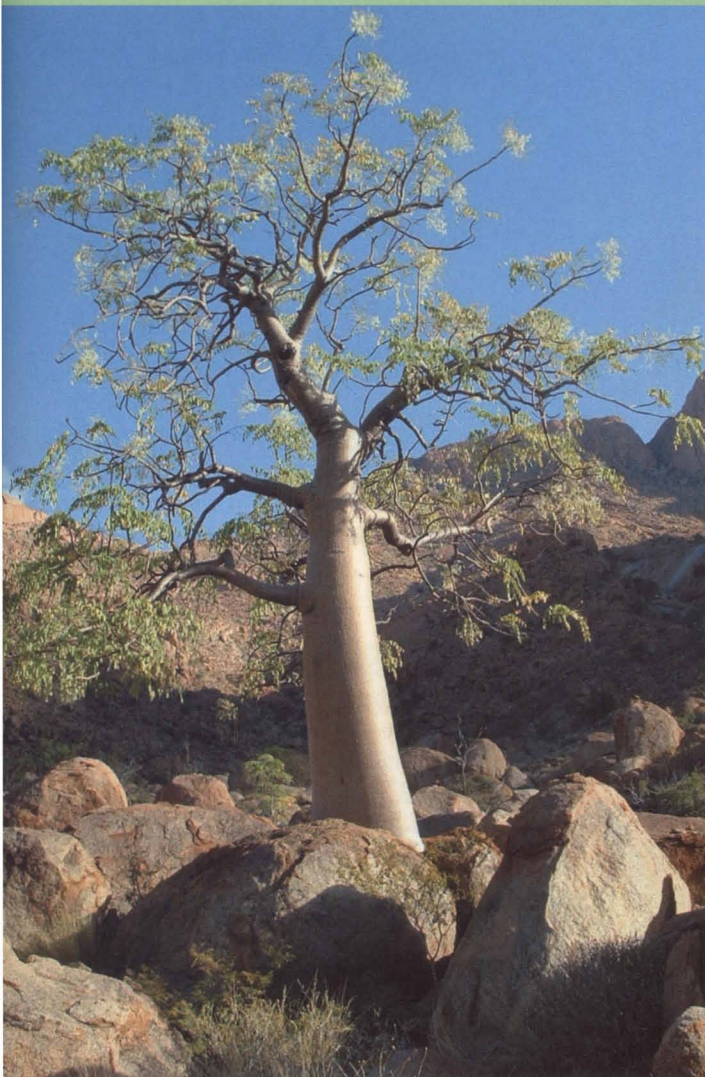
plaints, and my boot needed temporary fixing with Anton's surgical needle for our last day.

The next morning our descent went quickly and we reached our vehicles by midday - all very tired. Pikkie and Steve left for Windhoek and the rest of us went to Henties Bay where Terrence caught us kabeljou, steenbras and galjoen and we had a fish braai next to the Atlantic discussing our successes.

On Thursday we left for Windhoek where we left cuttings of *Plumbago wissii* for Johan Wentzel at Wileend Nursery and headed back to Kirstenbosch.

BELOW LEFT: The phantom tree *Moringa ovalifolia* with its impressive stem. Photo: Ernst van Jaarsveld.

RIGHT: The Brandberg plumbago *Plumbago wissii* growing in a crevice at Watervalvlakte. Photo: Ernst van Jaarsveld.



Acknowledgements

Pikkie Hofman for her help in guiding us, and Dr Pierre Le Roux for housing us at Windhoek. All the members of the team helping us and enjoying the Brandberg Mountain.

Further reading

*Kinahan, J. 2000. Daures, the burning mountain - issues of research and conservation in the Brandberg of Namibia. *Cimbebasia* Memoir 9. (Which also contains contributions from over forty specialists, and is entirely devoted to various natural topics of this interesting mountain.)