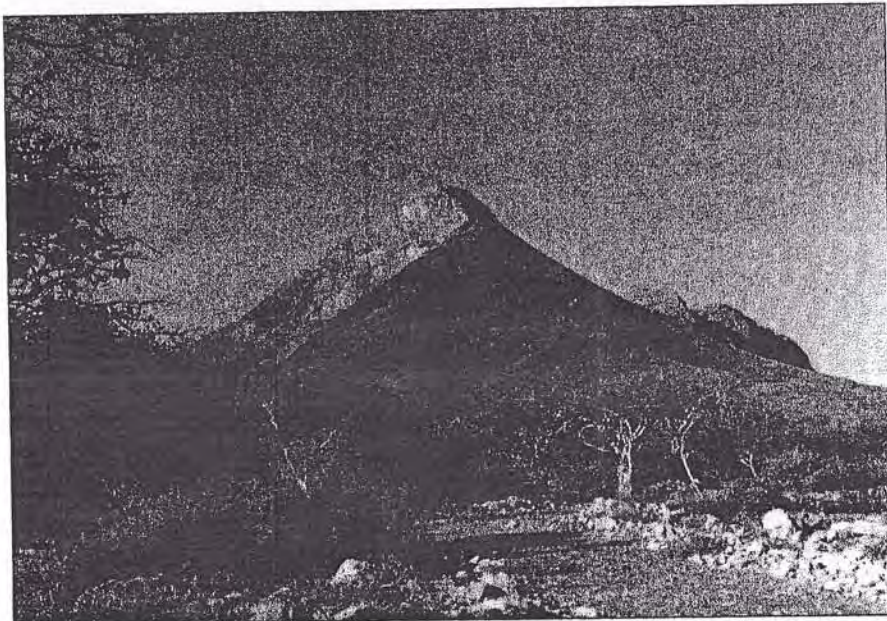


**WELCOME TO NAMIBIA AND THE NAMIB-NAUKLUFT PARK,
THE LARGEST PARK IN AFRICA.**

INTRODUCTION:

The Naukluft 4x4 trail is the first of its kind in a conservation area in Namibia and offers you a closer look at nature and the magnificent Naukluft Mountains. You will probably see herds of Hartmann's mountain zebra, animals that have adapted to these rugged mountains, klipspringers bounding over the rocks or black eagles soaring effortlessly overhead. Whatever you see, you will never forget your trip on the Naukluft 4x4 trail.

The Namib-Naukluft Park, stretching from the Swakop River in the north to the Aus/Luderitz road in the south and from the sea almost to the escarpment in the east, covers an area of 49 768 km² (almost 5 million hectares).



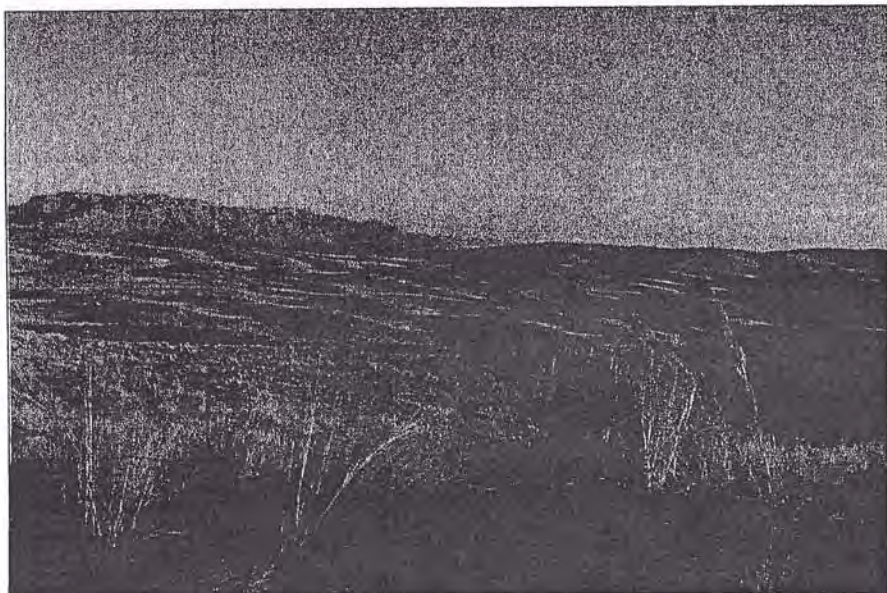
Start of the 4 x 4 Trail

HISTORY:

The Namib-Naukluft Park grew to its present size over a period of almost 90 years. In 1907 the area between the Swakop River and the Kuiseb River was proclaimed as Game Reserve No. 3 by the German Colonial Administration. In 1941 the

Sandwich area was incorporated into Game Reserve No. 3. This was to protect the guano concession on islands in the lagoon.

The Reserve was enlarged in 1956 to include the Welwitschia Plains, Swakop River valley and the Kuiseb Canyon. In 1966 this area became known as the Namib Desert Park - 14 095 km² in size.



Dunes in the park

In 1968 the Naukluft Mountain Zebra Park was proclaimed with the purchase of the farm Naukluft. This was to protect the endangered Hartmann's mountain zebra. After an ecological survey in 1970 most of the farms forming the Naukluft mountain massif were purchased and later a number of farms west of the mountain were bought to create a corridor so that gemsbok could migrate between the dunes and the mountains.

In 1979 a large portion of land known as Diamond Area 2, to the south of the Kuiseb River, including Sesriem and Sossusvlei, was ceded to conservation. This area, unoccupied State Land, the Namib Desert Park and the Naukluft Mountain Zebra Park were consolidated to form the 23 340 km² Namib-Naukluft Park.



Naukluft Campsite

The further addition of the remainder of Diamond Area 2 and a portion of Diamond Area 1, as far south as the Aus/Luderitz road in 1986, made the Namib-Naukluft Park the biggest park in Africa, 49 768 km², almost the size of Belgium and Wales together.

Animals now again roam over this vast area as they did in former years.

ACCOMMODATION AND FACILITIES:

The Naukluft camp, in the mountains on the banks of the Naukluft River is small and exclusive. Because there are only 4 camp-sites (no chalets) a reservation is essential.

Visitors intending to go on the Naukluft 4x4 trail must make a reservation for the camp-site if they intend overnighing at Naukluft before going on or after completing the trail. There are also a number of guest farms outside the Park where accommodation is available.

Other facilities at Naukluft include the unbelievable Waterkloof Trail of 17 km which leads to cold mountain streams and crystal clear pools big enough to swim in - ferns and flowers, huge fig trees and magnificent scenery - all in this seemingly waterless countryside.

Then there is the Olive Trail of 10 km which takes you to the top of the plateau and views of black eagle nests high on the perpendicular, red cliffs.

For the more adventurous there is the Naukluft 8-day Hiking Trail with 7 overnight stops. This trail affords you the opportunity to discover on foot one of the most beautiful parts of Namibia. This hiking trail is regarded by many hikers as the toughest in southern Africa. Reservations for this trail are essential.

THE NAUKLUFT 4x4 TRAIL.

GENERAL:

This unique 4x4 trail is on tracks built by early pioneers, who farmed this area for many years. The trail is approximately 73 km long and there is an overnight stop 30 km from Naukluft on the plateau at Tjeriktik. Tjeriktik is the Afrikaans name for titbabbler, a common bird of the Naukluft.



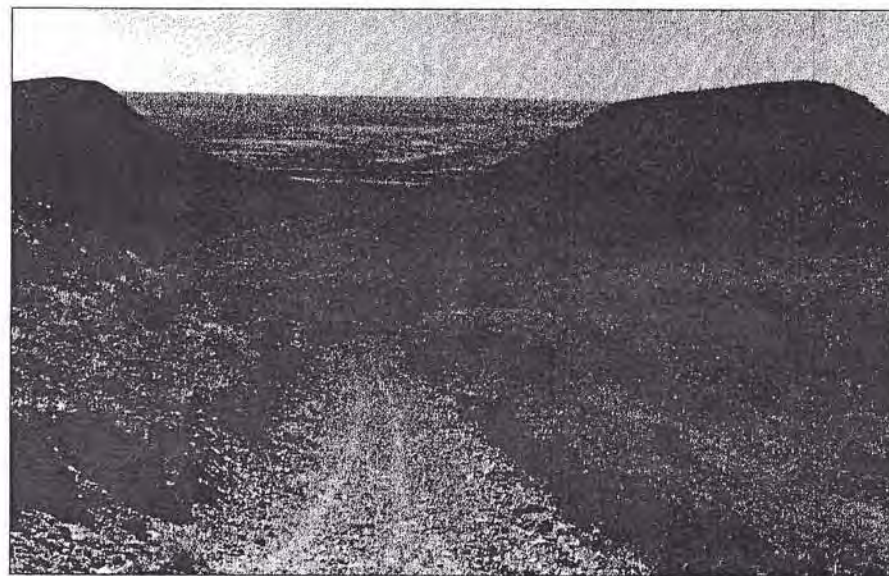
Pools in the Naukluft

This trail is not only for 4x4 enthusiasts but for anyone interested in nature and wanting a closer look at the mountains, plants, and animals that inhabit them.

Because of the narrow, rocky tracks on the mountain, there are restrictions on certain vehicles, but the trail is negotiable by most 4 x 4 vehicles that have standard track width. Sand or wide, soft-walled tyres are not recommended because of the many sharp stones.

This route is not designed to test your vehicle, but rather to test your driving ability. We ask all visitors to drive slowly and to stay on the track. Avoid wheel spinning, which accelerates erosion. Use the lowest gear on the steep sections. Not only is it better for our road, it is also better for your tyres.

This is your Park. Use it, don't abuse it!



Keerweerder Corner

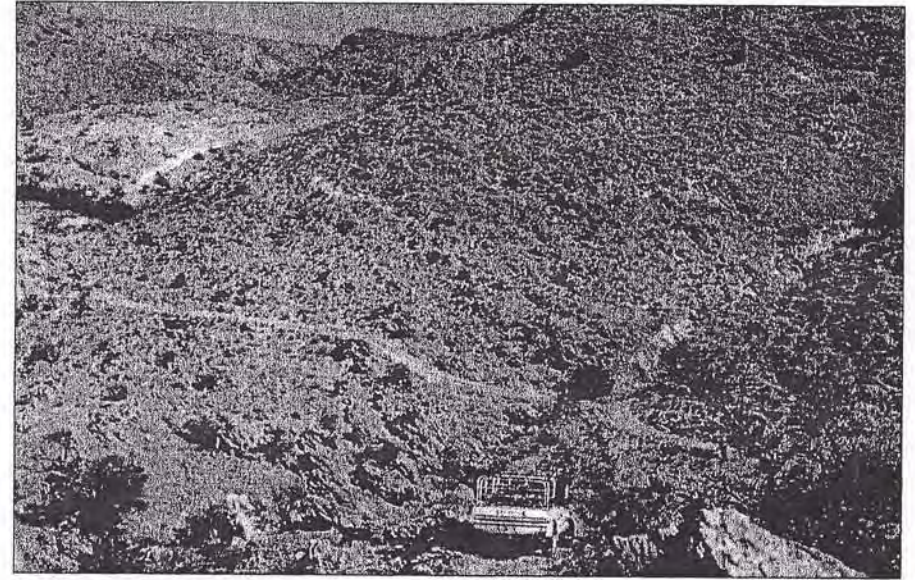


Tjeriktik Camp

TJERIKTIK CAMP:

At Tjeriktik, potable water is available at the hand-pump. There are toilets, a shower, an outdoor fire place, tables, benches and four stone-walled, A-framed shelters with built-in bunks to sleep on. Visitors may use their own tents if they prefer, and must be self-sufficient as regards camping equipment, including mattresses, food and liquid refreshments. The four shelters can each accommodate four people, with a maximum of 16 people and four vehicles per group.

All refuse must be brought back to Naukluft. Bags are available at the office. Firewood can be purchased at the office as no firewood may be collected in the veld.



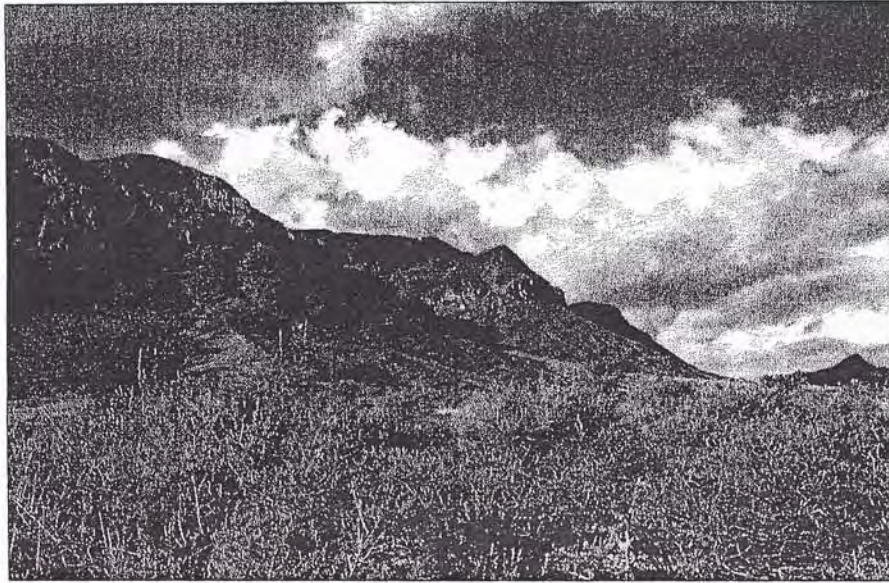
On the Four Passes Route

SELF-GUIDED TRAIL:

The Naukluft 4x4 trail is an unguided, overnight trail and no guided trails are available. Reservations, through the reservation office in Windhoek, are essential, see the last page for details.

Visitors going on the 4x4 trail must book in at the Naukluft office by mid-day on the day of the trail. Because of the rugged terrain and narrow tracks, and to ensure your safety, all participants will be briefed before departure at 14:30. A check will be made on essential equipment and safety and emergency procedures will be discussed. Because of the high summer temperatures, it is advisable to carry about 20 litres of water per vehicle.

Visitors are expected to be back at noon on the following day. Because this is an exclusive trail, only one group at a time will be allowed onto the plateau. The group going on trail cannot leave until the previous party is back. **SO PLEASE MAKE SURE YOU ARE BACK AT NAUKLUFT BY MID-DAY. DO NOT SPOIL ANOTHER GROUP'S PROPOSED VISIT ON THIS EXCITING 4X4 TRAIL.**



Naukluft Mountains

GEOLOGY:

Situated along the western margin of the interior highlands of Namibia, the Naukluft Mountains form part of the Great Escarpment - the great divide in the southern African land surface that separates the interior from the coastal lowlands. The formation of the escarpment is widely considered to have resulted from a sudden uplift of the sub-continent more than 65 million years ago. This was probably shortly after the break-up between Africa and South America to form the Atlantic Ocean. The relatively flat, plateau-like, top of the escarpment represents, like most of the interior, a much older, mature land surface that formed through long periods of erosion prior to this uplift.

During more recent times, thick deposits of sand and gravel have accumulated filling the deeply incised valley at the foot of the escarpment. Most of this probably took place under dry, arid to semi-arid climatic conditions as they exist to-day, interrupted only by brief periods of higher rainfall.

Records of the more distant geological past of the Naukluft Mountains are preserved in the rocks exposed in and around the area. Most of these are sedimentary rocks which consist mainly of limestone and dolomite that formed some 600 to 700 million years ago when most of the southern portion of Namibia was submerged below a warm shallow sea.

Two parts of this sequence are distinguished. The lower part consists of the very characteristic black Nama limestones. These rest on a much older basement of granite, gneiss, schist, lava and quartzite found mainly in the foothills of the escarpment and forming the scattered inselbergs at the edge of the Namib.

The upper part of the dolomite-limestone formations of the Naukluft Mountain belong to what geologists refer to as the Naukluft nappes. These consist of faulted and folded rocks that were emplaced into their present position, above lower black limestones, along a sub-horizontal fault plane, known as a thrust. Earth forces responsible for these movements are believed to be connected to geological events which took place between 500 and 550 million years ago, when in a wide belt, centred over the present Khomas Hochland, intense compression within the earth's crust resulted in active mountain building on a scale that can be compared with that of the European Alps. The nappes of the Naukluft Mountain are a relict of the foreland of this ancient mountain chain, which has since been eroded down to its roots.

As stated, the Naukluft Mountains consist mainly of limestone and dolomite and over millions of years, during wetter cycles, rain water dissolved the limestone and dolomite forming large underground caverns. Water is stored in this underground drainage system and is slowly released. This forms the many fountains, or springs, and crystal clear pools for which the Naukluft is renowned.

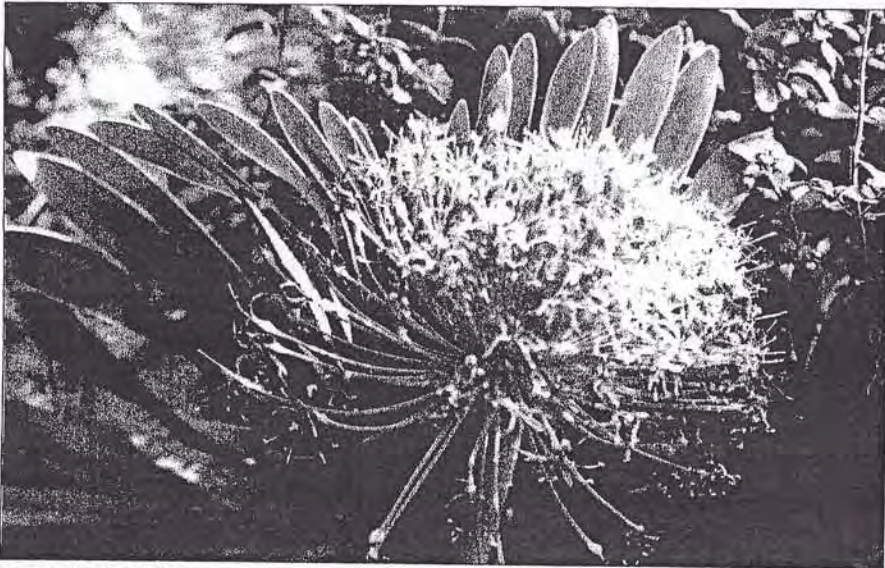
As the lime-rich spring water flows down the mountain streams, it loses carbon dioxide and deposits calcium carbonate. This is a slow process and the porous nature of the carbonate deposits is the result of the decay of mosses and other plant-matter being cemented by the calcium carbonate. This formation is known as tufa and there are a number of large tufa deposits in the Naukluft Mountains which are no longer developing. These large relict tufas thus reflect episodes of higher groundwater discharge at those spring sites, probably as a consequence of high water tables during past periods of increased rainfall.

CLIMATE:

The summers are very hot, but frequently there is a cool breeze on top of the plateau. Summer rainfall usually occurs from February to April, with an average of 195 mm in the mountains, but it is highly variable with a range from 50 mm to 530 mm per year. Because rain often damages the mountain track, the trail may be closed until repairs can be made. Enquire at the Reservation Office if in doubt.

Winter temperatures can drop to below freezing point at night, while the days are relatively warm. At times it is very windy and mist can cover the plateau, making it cold and wet.

Altitudes vary from 1 300 m on the plains to 1 988 m on the plateau.



Boophane disticha

FLORA:

Various plant communities can clearly be seen on the trail. The plains at the base of the mountains are covered in places by shrubs such as driedoring, *Rhigozum trichotomum*, and trumpet thorn, *Catophractes alexandri*, and are crossed by numerous watercourses, with shepherd's tree, *Boscia albitrunca*, buffalo thorn, *Ziziphus mucronata*, umbrella thorn, *Acacia tortilis* and wild ebony, *Euclea pseudebenus* growing in them. As you climb higher, the valley-sides and



PICTURE: DIRK HEINRICH

On the Trail

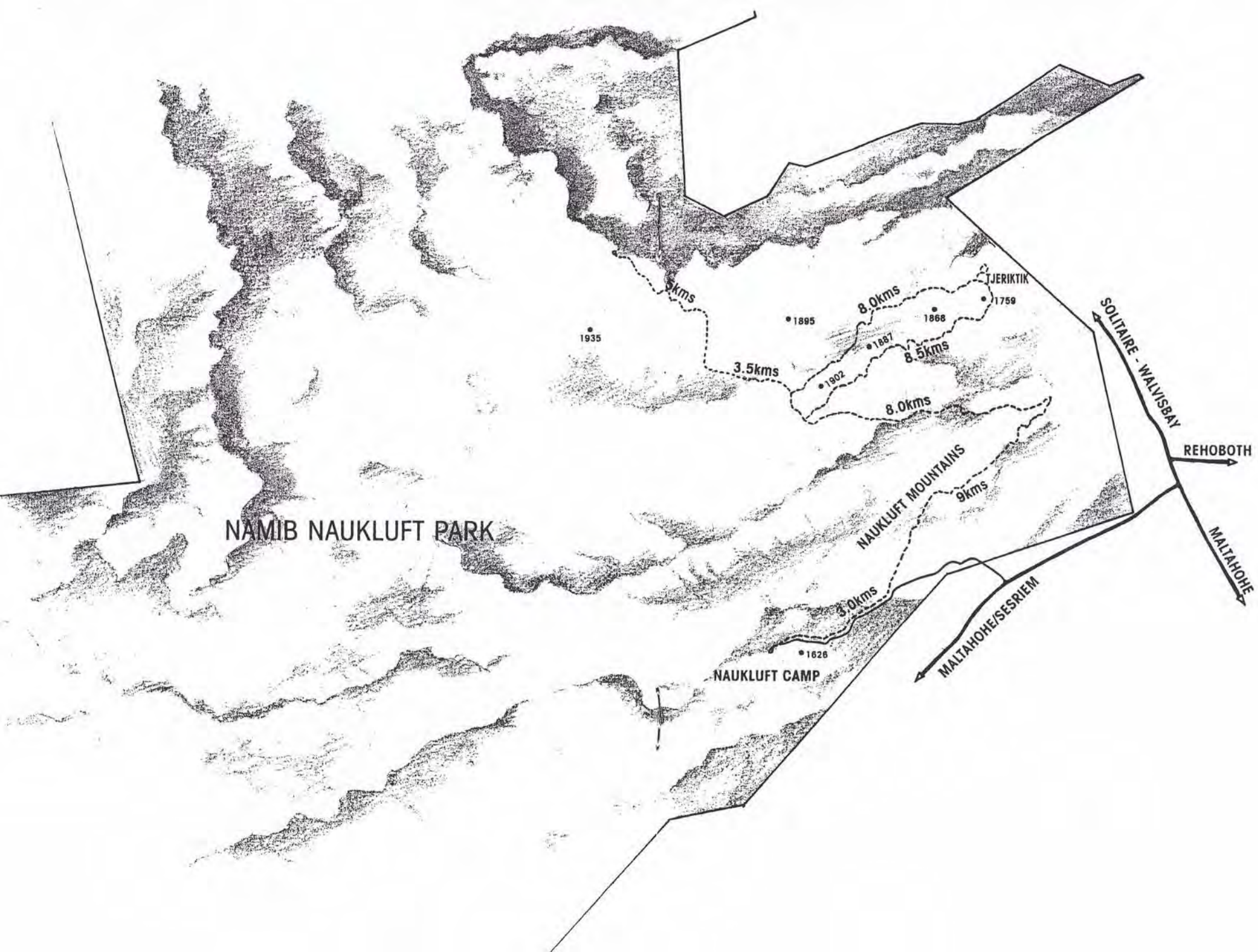
mountain slopes are sparsely vegetated with species such as paper-bark,

Commiphora glaucescens, *Euphorbia virosa* and quiver trees, *Aloe dichotoma* and the small gouty vine, *Cyphostemma bainesii*.

An interesting plant on certain slopes, is the resurrection plant, *Myrothamnus flabellifolius*. When conditions are unfavourable, the bush reduces its physiological activities to a minimum. When rain falls, the change is dramatic. Within an hour, the leaves open and turn green. The leaves and twigs are used to make an aromatic tea.

The riverine valleys, some with perennial springs which form large pools, have huge wild fig trees, *Ficus sycomorus*, *F. cordata*, the lovely karee, *Rhus lancea* and sweet thorn, *A. karroo*. At these pools the pleasant smelling wild mint, *Mentha longifolia* subsp. *wissii*, is found.

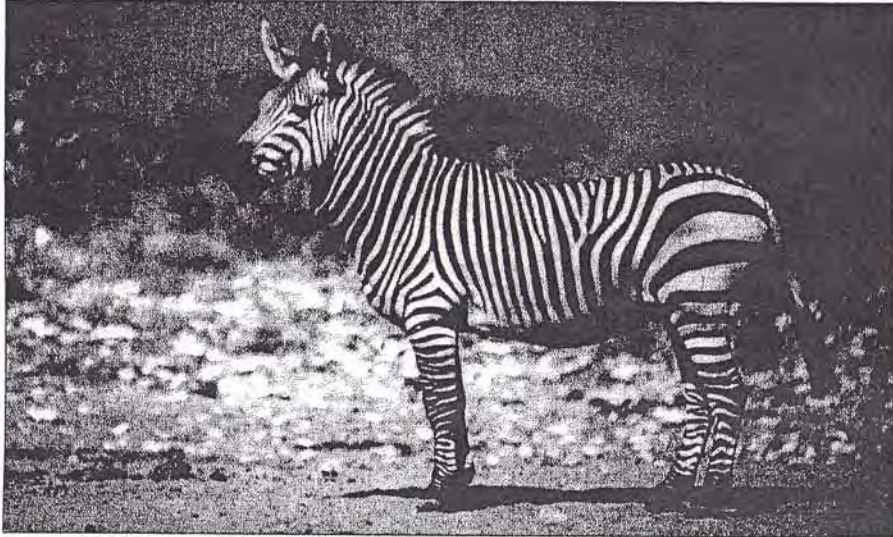
The plateau is sparsely covered in Karoo-type vegetation, with small shrubs such as kapok bush, *Eriocephalus ericoides*, hardy *Euclea asperima* and occasional shepherd's trees, buffalo thorn and mountain acacia, *Acacia hereroensis*.



FAUNA:

The Naukluft Mountains not only have spectacular scenery, but also large numbers of Hartmann's mountain zebra, *Equus zebra hartmannae*, and you may see them thundering past within metres of your vehicle. Their social organisation is based on a family group of a stallion with his mares and their foals. Bachelors also form groups and at times join family groups. Family groups come together to form herds of 30 to 40 individuals.

The hooves of the Hartmann's zebra are quick growing to compensate for the rapid wear on the rocky substrata. The many holes or dust-baths, often on the track, are made by zebra. Dustbathing can primarily be described as a grooming action.



Hartmann's mountain zebra

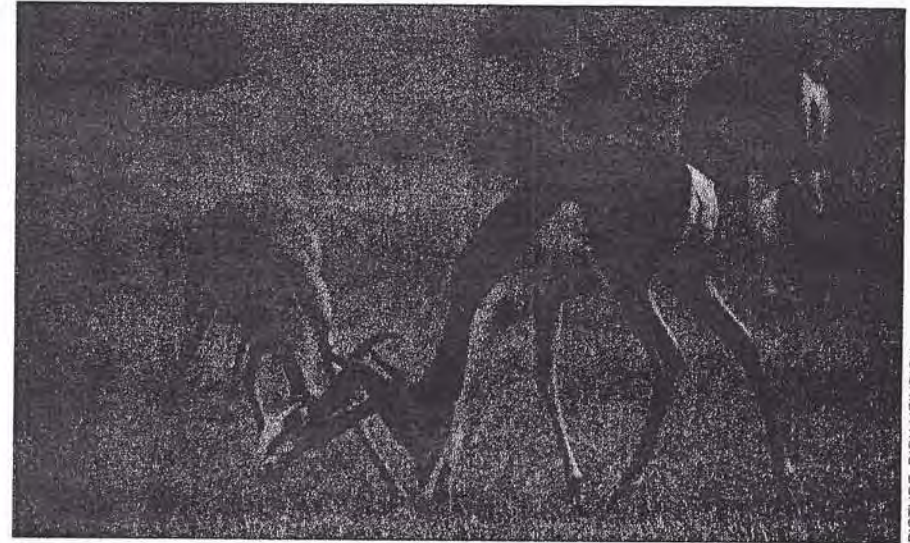
Hartmann's zebra differ from Burchell's zebra, *E. burchelli*, in the following ways.

Hartmann's zebra:

150 cm at shoulder
Mass up to 340 kg
No shadow stripes
Has a dewlap
Belly not striped
Narrow transverse stripes on rump, "grid-iron" pattern.

Burchell's zebra:

136 cm at shoulder
Mass up to 320 kg
Grey/yellow shadow stripes
No dewlap
Stripes low on belly
Stripes longitudinal on hind-quarters, no "grid-iron"



Springbok

While mountain zebra are the most abundant large herbivore, there are also many kudu, often seen near Fig Fountain. Klipspringers are to be found on the slopes and on the plateau. Springbok herds are resident on the plateau and at certain times of the year are joined by gemsbok in small groups.

The largest predator is the leopard, but this elusive cat is seldom seen. Other predators include caracal, small spotted cat, African wild cat, small spotted genet and black-backed jackal. Spotted hyaena are occasional visitors from the west of the park. Baboons are common on the lower slopes, as are rock dassie and dassie rats.

BIRDS:

The Naukluft mountain complex is situated at the junction of the Damaraland and Karoo zoogeographical areas. This is thus the southern limit of the distribution of many Damaraland species such as white tailed shrike, Herero chat, Ruppell's korhaan and Monteiro's hornbill.

This is also the northern limit of the distribution of Karoo species such as Karoo robin and cinnamonbreasted warbler.

Black eagles breed on the high cliffs and several nests can be seen from the trail. Augur and jackal buzzards are also to be seen. Rosy faced lovebirds and palewinged starlings are common as are reddyed bulbuls. On the plateau Ludwig's bustard,

longbilled and Sabota larks, pale chanting goshawks and the occasional capped wheatear can be seen, and possibly the rufouseared warbler. In the ravines you may see Layard's titbabbler or the lesser honeyguide. A complete check-list is obtainable at the Naukluft office.



Black eagle

PICTURE: DIRK HEINRICH

POINTS OF INTEREST ON THE NAUKLUFT 4X4 TRAIL:

As soon as the trail turns off the main road it crisscrosses the river and starts climbing. Engage 4 wheel drive, low range. Please drive slowly and carefully. The numbered markers indicate points of interest on the trail.

1. **Blake's Pass:**

Mr Robbie Blake was the owner of the farm Naukluft from about 1943. He had the road built up to the plateau so that a drilling machine could be taken up to drill for water. At times over 2 000 sheep grazed on the plateau and were taken down to the fountains on the lower slopes of the mountain every second day for water. By drilling bore-holes, the area grazed by stock could be increased as water was then available in these areas.

2. **Fig Fountain**

This fountain is used by many animals, large and small, and game tracks converge on it from all directions. Although the water level drops during dry years, it has never dried up yet. The fountain has numerous, beautiful, green frogs, *Rana fuscigula*, and blackheaded canaries are often seen drinking here. On the high red cliffs, the big, bulky nests of black eagles can be seen. The white footprints seen at the fountain are part of the Olive Trail.



Zebra zigzag

3. **Zebra Zigzag:**

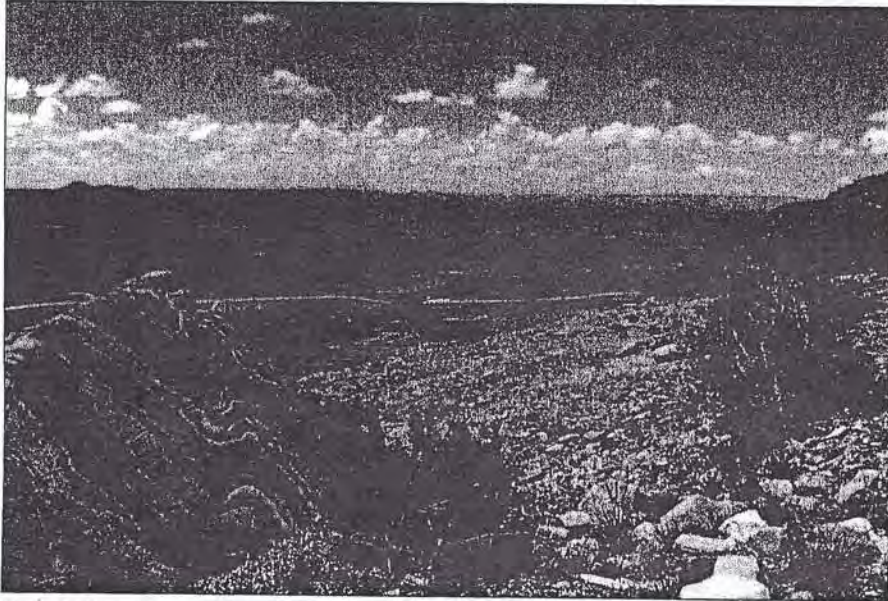
This portion of the trail climbs steeply and because of constant use by zebra, many rocks are dislodged and fall onto the track. It is advisable to walk up these two short sections first and remove any obstructive rocks. Drive slowly and avoid wheel spinning. From the top enjoy the view back down the valley.

4. **Panorama View:**

This is the first point from which a view of the hills and valleys below can be seen. To the south are the typical, red, flat-topped hills of the Zaris Mountains.

5. **Exclusion Plot:**

This fenced area is used by researchers to determine the amount of food produced by plants/grasses. The fence keeps large animals out, but not mice, birds or termites, which also consume relatively large quantities of these plants. The mass of food produced is one of the factors used in determining the carrying capacity of large herbivores in the park. There are several such exclusion plots throughout the park. Can you notice any difference between the plant growth inside and outside the plot?



De la Bat's rock

6. **De la Bat's Rocks:**

Stop and photograph these beautiful rocks, named after the first Director of Nature Conservation in Namibia.

7. **Keerweerder Corner:**

This is the name given to this bend by the early farmers, a lovely view to the east and south-east.

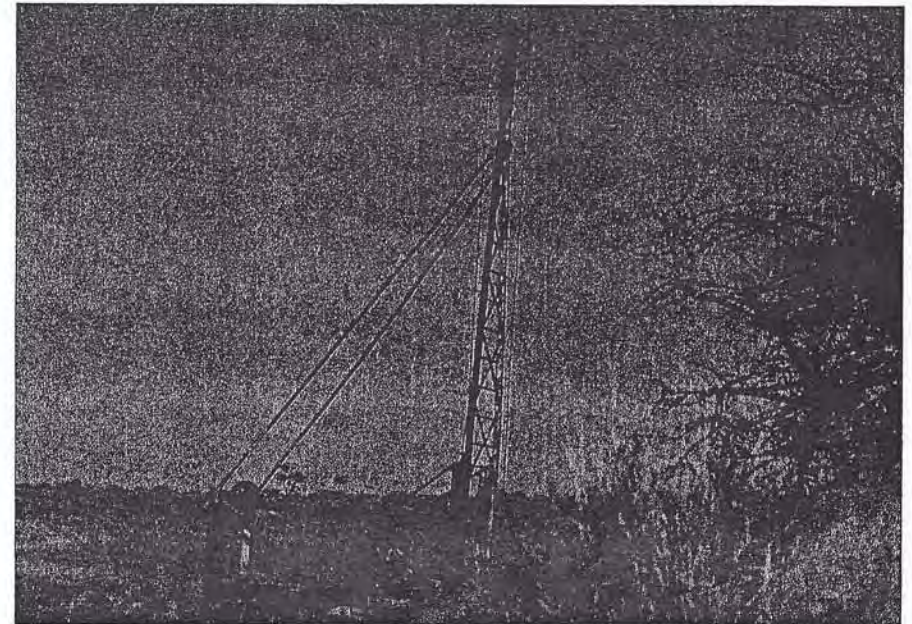
8. **Picnic spot:**

9. **Dry Well:**

This well, dug only with hand tools, was never used as no water was found. Be careful, this is a dangerous site!

10. **Drill:**

The fact that the drill reached the top of the plateau is a tribute to the determination of the early pioneers. After the road was completed in 1948, it was the task of Mr Attie Pienaar and Mr Hans Breiting to get the drill onto the plateau. They used an army surplus, 3 ton, 2 x 4, 8 cylinder Ford truck. The loading bed was removed from the truck and the drill was dismantled until only the frame was left, that is, the tower, heavy cables, steel wheels, engine and other parts were removed. This frame was then bolted onto the Ford. With a Willy's Jeep pulling in front, this top-heavy load was ready. The Jeep was weighted down with heavy drill bits tied to the front bumper and a drum of water on the back to stop its wheels spinning. This convoy then set off on its slow, perilous voyage up the pass. The door of the truck was missing and a rope was tied around Attie Pienaar's waist. At steep, dangerous places, someone walked next to the truck and held onto the rope. If the truck toppled, the theory was that Attie could be pulled out of the truck to safety. Luckily this theory was never put to the test. Over a period of about 2 weeks and numerous trips, all the equipment was



The Old Drill

eventually on the plateau and the drill was reassembled. The drill was used to drill several bore-holes and it was taken to its present position at a later stage. The engine was removed for repairs but never replaced. The Ford truck was sold to a local of Maltahöhe in 1960 and was used for many more years.



PICTURE: DIRK HEINRICH

On the Trail

11. **Tjeriktik via Rockhopper Gorge:**

The track now turns off down the Rockhopper gorge, to your overnight camp at Tjeriktik, which is 8,5 km away. Drive slowly and carefully down this route.

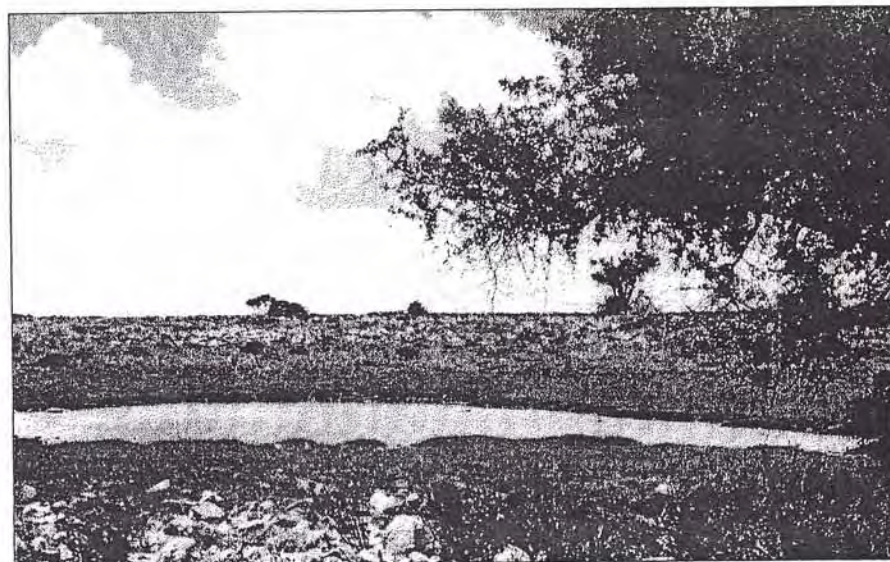
After reaching your camp-site in the peaceful valley, it will be pleasant to relax around your camp-fire after a tiring, but exhilarating drive.

Please leave the camp-site and shelters as you would like to find them. Litter can kill or injure animals and is unsightly. Please do not litter - use the litter bags, even for cigarette butts and matches, and rake the ashes from your fire into the holes at the end of the fire-place. If you have used the shower please pump water into the drums again.

The next morning you leave via the scenic Four Passes route where you join the main track 8 km away.

12. **Turn-off to Bakenkop:**

When you reach the main track, you have a choice of continuing to Bakenkop, 7 km or returning to Naukluft, 23 km. Please take into consideration that you must be back at Naukluft at noon.



Flooded dam on the plateau

13. **Pans:**

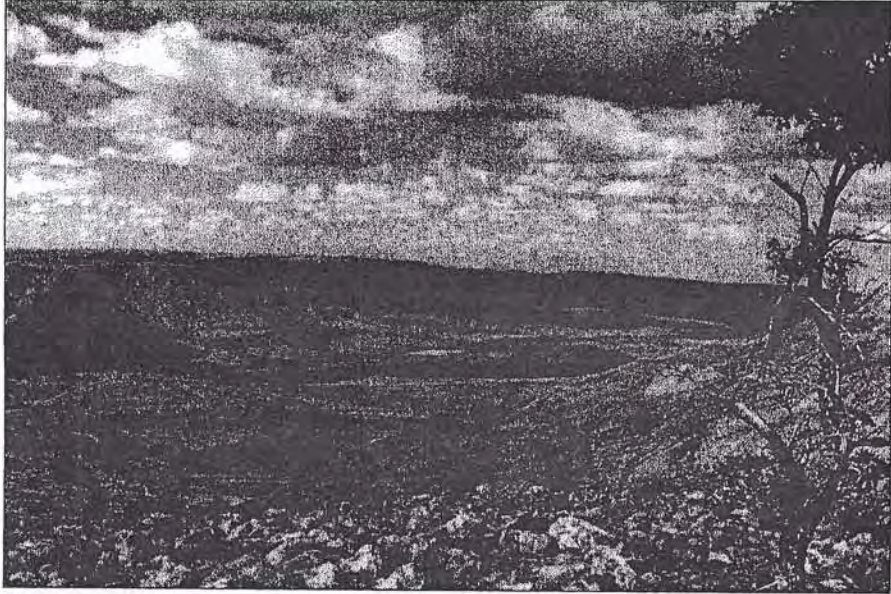
On the eastern, relatively flat area of the plateau, there are many pans. These can hold water for several months after good rains. Animals then grow fat on the new vegetation and the plentiful supply of water - surely a paradise.

Trees growing on the pan edges are some of the biggest and thickest of their kind in the park. Not only do these pans sustain plants and larger animals, but the water teems with fresh water shrimps. These small creatures survive the dry years as eggs buried in the ground, patiently waiting for rain. When the pans are flooded, they hatch, reach adulthood, reproduce and lay eggs to continue the cycle.

These pans also attract redbilled teal, Egyptian geese, South African shelduck, crowned plovers and hundreds of Namaqua sandgrouse.

14. **Turn-off to Kapokvlakte:**

Just before reaching another exclusion plot, the road turns off to the right. This area is known as Kapokvlakte because of the many kapok bushes, *Eriosephalus ericoides*. When they flower, the cottony seed covers the ground and gives the appearance of kapok (snow). From this turn off it is 5 km to Bakenkop.



View from Bakenkop

15. **Bakenkop:**

This is the turning point and probably the highlight of your trip. The beautiful view of the Tsondab River Valley below and the Remhoogte Mountains disappearing in the haze will not easily be forgotten.

The beacon, altitude 1 960 m, is the original corner beacon of the farms Arbeid Adelt, Naukluft and Blässkranz.

After you have taken one last look and one more photograph, you return to Naukluft, 30 km away.

16. **Junction with tourist road to Naukluft and end of Trail:**

Please report to the Ranger at the Naukluft office so that he knows that you are safely off the mountain.

Do not forget to disengage 4-wheel drive.

WE HOPE YOU HAVE ENJOYED THIS UNIQUE EXPERIENCE AND WILL RETURN HOME WITH MANY HAPPY MEMORIES.