THE ETHNOBOTANY
OF THE TOPNAAR

Veerle Van den Eynden
Patrick Vernemmen
Patrick Van Damme

Desert Research
Foundation of Namibia

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Introduction

The Topnaar are the only inhabitants of the Namib desert. The name of this desert is derived from the Nama word for "endless expanse". The Namib is a long but narrow desert situated on the southwest coast of Africa and stretches from Mossamedes in Angola across the full length of Namibia to the mouth of the Olifants River in South Africa - a length of almost 2000 km. Its width varies from 90 to 120 km (see map 1). This desert is considered to be the oldest desert in the world. The climate of the area has been arid or semi-arid for at least the last 80 million years. During this long history, life has adapted to the harsh conditions. The result is a high percentage of endemism amongst plants and animals. The term endemic is used to describe species which occur only in one specific area.

Apart from two perennial rivers, the Kunene and Orange River, the Namib is crossed by several ephemeral rivers. Waterflow in these rivers is fairly rare and depends upon rainfall in their respective catchment areas. There is, however, a permanent subterranean waterfall, sufficient to maintain linear oases along the riverbed.

The Topnaar live along the Kuiseb river, one of these seasonal rivers, which forms the border between the northern stone desert and the southern sand dune sea. A second Topnaar community lives in Sesfontein, a village about 500 km north of the Kuiseb. Sesfontein is situated just outside the Namib, in the pro-Namib, the more humid area east of the Namib (see map 1).

From December 1991 to June 1992, an ethnobotanical survey was conducted in collaboration with the Topnaar. All Topnaar settlements of the Kuiseb area and Sesfontein were visited and all families interviewed. Special emphasis was placed on the older Topnaar, whose plant knowledge is the most extensive. For each plant mentioned, information on its use, the used parts and the preparation and processing method was collected. The plant specimens that could be collected in the field were identified by the authors. Because of extreme drought during this period, some plants could not be found in the field. Some of these could still be identified through literature research, relating them to the vernacular names and the plant descriptions given by the Topnaar. Others however remain unidentifed to date.

Some people gave information on the use of non-plant material. This information is also included in this book.
1. The Topnaar People

1.1 The Topnaar Society

The Topnaar people belong to the Nama, who for their part, belong to the Khoi-Khoi race. The Khoi-Khoi were called Hottentots by the first European colonizers, probably because of their language Nama, a "click" language. The four clicks used in Nama are |"dental click", ||"lateral click", !"palatal click" and +"alveolar click". The Khoi-Khoi, translated as 'men of men', were previously more widely dispersed in southern Africa. At present Khoi-Khoi tribes are only found in Namibia where they consist of 3 groups: the Nama, the Oorlam and a number of San groups (see table 1).

The Nama are divided into 9 tribes, two of which are the Topnaar of the lower Kuiseb valley and the Topnaar of Sesfontein. The two areas they live in are shown on map 1. The name Topnaar is of Dutch origin, meaning 'people of the upperland' or 'those who are on top'. This is probably a translation of the traditional Nama name Aonin. Etymologically Aonin is derived from áob, meaning top. There are different explanations of the name Aonin: 'people on the top', living in the mountains (KöHLER, 1969); 'people standing on top of the Nama people', superior to the other tribes (KöHLER, 1969); 'people living in a marginal area', on the edge of the Nama territory (BUDACK, 1977) or 'people inhabiting the sea coast' (KöHLER, 1969).

The Topnaar tribe is divided into sibs (clans) and the tribal government consists of a chief and his council. In the past the leadership was inheritable, but now also the people have a say in the elections of a new chief.

1.2 History

The Topnaar are among the oldest inhabitants of Namibia. Their history is not completely known. The earliest recorded presence of Topnaar in the Walvisbay area goes back to 1670 when the Dutch East India Company's ship, Grundel, first entered Sandwich Harbour, just south of Walvisbay (see map 2). The natives on the shore were recognized as Hottentots by the crew, but their language was noted to be slightly different to that of the Cape Hottentots (who were known from the first voyages of the Dutch East India Company to South Africa). At that time the Kuiseb still reached the sea at Sandwich Harbour. Seven years later, in 1677, the Dutch East India Company vessel Boode visited Sandwich Harbour and met
The Topunar of the lower Kusib valley traditionally live by herding cattle, goats, and sheep. The Kusib valley is a narrow depression and includes the lower Kusib river valley. The lower Kusib valley is an area of great natural beauty and fertility. The area is rich in water resources, and has a mild climate. The Topunars are a nomadic people, and depend on the use of their herds for their livelihood. They travel to the Kusib valley during the dry season to graze their herds.

The Topunars of the lower Kusib valley followed the Kusib valley, where they had already lived for many years. They had a settled lifestyle and were part of the local community. The Topunars were one of the first groups to settle in the area, and had been living there for many years. They were known for their hunting skills and their knowledge of the local environment.

The Topunars had a close relationship with the local community, and were respected for their knowledge of the natural world. They were also known for their hospitality and their ability to adapt to the changing environment. The Topunars were able to survive in the area by relying on their herds and their knowledge of the local environment.

The Topunars were one of the first groups to settle in the area, and had been living there for many years. They were known for their hunting skills and their knowledge of the local environment. They were also known for their hospitality and their ability to adapt to the changing environment. The Topunars were able to survive in the area by relying on their herds and their knowledge of the local environment.
indigenous edible plants for food). The *nlara* grows abundantly in the sand dunes near Walvisbay. Each family possesses a number of *nlara* bushes. In this the Topnaar differ from the other Khoi-Khoi: the *nlara* bushes, not the land on which they grow, are private property, whereas normally possessions are common. This perpetual right to the *nlaras* was approved by Queen Victoria herself. Each family can only harvest from its own *nlara* bushes. The property rights are hereditary. If the parents die, the *nlara* field is divided over the children that are interested in the *nlara*. The chief and his council may rule in disputes if necessary. During the harvesting season of the *nlara*, whole families move down to the coastal *nlara* fields and remain there until the end of the harvest. Only a few people stay behind in the villages to attend livestock.

In the past, the Topnaar of the Kuiseb area were split up into *Hurinin*, the hunter-gatherers and fishermen living along the coast, and *Naranin*, those living more inland along the Kuiseb river. The latter were the dominant group. Now they have fused. Furthermore these Topnaar have also fused with some Herero, Ovambo, Damara and Euroafricans living in the same area.

The Khoi-Khoi are traditionally nomadic. The Kuiseb Topnaars' mobility, however, is restricted by the environmental conditions of the area: the people depend on the waterholes in the riverbed and the *nlara* fields. Another drastic influence on their mobility and general way of living is the fact that in 1907 a large area of the Namib desert was declared a National Park. This ruling prevents hunting and prohibits the herding of livestock or any other activity outside the riverbed. Following implementation of the South African Odendaalplan (the aim of this plan was to return all black people in South Africa and South West Africa (now Namibia) to their respective homelands), some farms were purchased further south, in Namaland, with the intention to move and resettle the Topnaar outside the Namib-Naukluft park. They refused, however, to leave their territory, which they claim as their traditional tribal area as they have already occupied it for several centuries. Their culture is linked to the *nlara* and they depend on the sea and its food resources. There also exist legal treaties respecting their traditional rights to the use of the *nlara* plants.

For years the presence of the Topnaar in the Namib-Naukluft park was a topic of dispute between the Ministry of Wildlife, Conservation and Tourism and the Topnaar people. A result of this was that under South African rule, few investments in the development of the area were made. Only in 1979 did the Department of Water Affairs improve the water supply in the villages by building windpumps,
Actually come to Estonia.

Only during the leadership of his son, Arabid Hendrik (Ichmann), did the Topumar become a part of the Integrierte Heide. The major crops are wheat, corn and tobacco. Cauliflower and wild leek plants are still important to these. Every field is divided into one part of the Integrierte Heide which provide water to this area. The fields are irrigated where possible in Estonia.

About 100 Topumar presently live in Estonia. The earliest chief the Topumar people are also called 'gemoni'. "Stupid people", speaking.

The Topumar of Estonia are also called 'gemoni'."Stupid people", speaking.

1.4 Way of Life in Estonia

Another 400 Topumar live in Walesby, a village belonging to the Republic of South Africa. One to ten families reside in each house. Some also belong to the Walesby-stad (Still Harztor, Gossen, Swartland, Edsred, Linnart, Gossen, Dawe-draad and the houses. The villages are divided into one of the main streets. At one point in the near future, the occasional flood will not destroy the river, nor enough from the river so that the occasional floods will not destroy the village.

At the time of this research about 400 Topumar lived along the Kusip river.

on a national level.

Topumar have again had someone to represent them and promote their interests 1981. This 18 year old son of the 11th chief Hendrik was elected his successor. Since this time the Topumar have again had the possibility to become a leader for a Topumar speaker of the national level. Their traditions, culture and tribal unity. Only in 1976, when Namibiern independence was declared, did the leadership of a Topumar speakman to have developed.

In 1992, the Topumar had no leader. This resulted in the loss of some of the traditions, culture and tribal unity. Only in 1992, when Namibiern independence was declared, did the leadership of a Topumar speaker of the national level.

The first known chief of the Kusib Topumar was Fredrik Kranz and 1912.

The Kusib Topumar lived along the Kusip river.

Dams, pipelines and watermills.

The Topumar People
### A. NAMA

<table>
<thead>
<tr>
<th>no.</th>
<th>Nama name</th>
<th>European name</th>
<th>Tribal centre</th>
</tr>
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<tbody>
<tr>
<td>1.</td>
<td>Gai-ǁkhaun</td>
<td>Red Nation</td>
<td>Hoachanas</td>
</tr>
<tr>
<td>2.</td>
<td>!Gami-ǁnūn</td>
<td>Bondelswarts</td>
<td>Warmbaths</td>
</tr>
<tr>
<td>3.</td>
<td>‡Aonin</td>
<td>Southern Topnaar</td>
<td>Rooibank</td>
</tr>
<tr>
<td>4.</td>
<td>!Gomen</td>
<td>Northern Topnaar</td>
<td>Sesfontein</td>
</tr>
<tr>
<td>5.</td>
<td>!Khara-khoen</td>
<td>Simon Kopers</td>
<td>Gochas</td>
</tr>
<tr>
<td>6.</td>
<td>‖Habsben</td>
<td>Velskoendraers</td>
<td>Koës</td>
</tr>
<tr>
<td>7.</td>
<td>‖Ō-gain*</td>
<td>Groot Doden</td>
<td>Schlip</td>
</tr>
<tr>
<td>8.</td>
<td>‖Khau-ǁgōan</td>
<td>Swartboois</td>
<td>Franzfontein</td>
</tr>
<tr>
<td>9.</td>
<td>Kharo-ǁloan</td>
<td>Keetmanshopers</td>
<td>Keetmanshoop</td>
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### B. "OORLAM" TRIBES

<table>
<thead>
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<tr>
<td>10.</td>
<td>!Aman</td>
<td>Bethaniers</td>
<td>Bethanien</td>
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<tr>
<td>11.</td>
<td>Gai-ǁkhaun*</td>
<td>Amraal Lamberts</td>
<td>Naosanabes</td>
</tr>
<tr>
<td>12.</td>
<td>Hai-ǁkhaun</td>
<td>Berseba people</td>
<td>Berseba</td>
</tr>
<tr>
<td>13.</td>
<td>‖Hōa-ǁaran*</td>
<td>Afrikaners</td>
<td>Windhoek</td>
</tr>
<tr>
<td>14.</td>
<td>‖Khobesen</td>
<td>Witboois</td>
<td>Gibeon</td>
</tr>
</tbody>
</table>

### C. SĀN GROUPS

<table>
<thead>
<tr>
<th>no.</th>
<th>Nama or proper name</th>
<th>European name</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.</td>
<td>Nami-sān*</td>
<td>Namib Bushmen</td>
<td>Southern Namib desert</td>
</tr>
<tr>
<td>16.</td>
<td>Kai-ǁomn</td>
<td>Keikum Bushmen</td>
<td>Outjo &amp; Tsumeb districts, Etoша Pan area, Ovambo</td>
</tr>
<tr>
<td>17.</td>
<td>Naron (!Ai-khoen)</td>
<td>Naron Bushmen</td>
<td>Ghanzi &amp; Gobabis districts</td>
</tr>
<tr>
<td>18.</td>
<td>Koe (Kwengo)</td>
<td>Black Bushmen</td>
<td>Kavango, western Caprivi</td>
</tr>
</tbody>
</table>

* Tribes marked with an asterisk have nearly died out.

*Table 1: The structure and localisation of the Khoi-khoi (Hottentots) in Namibia*
layer of cool air is formed due to the cooling effect of the ocean water: above this
a strong, stable temperature inversion is created (immediately above the surface a
precondition built up to about 50 km from the coast.

Belief on the mountain ranges up to about 60 km from the coastal
clouds, on plains is the most important water source for these plains in the coastal
areas. The condensation of the water, originating from fog and low stratus
fog and low stratus clouds are very common and extend sometimes more than

decrease, relative humidity rises, with increasing distance from the sea.
As the air moves inland, it is warmed and relatively dry.

The overall result is that when the temperature inland drops dramatically
by decrease, this results in fog. Strong winds from inland tend to push the fog
westwards towards the west coast of southern Africa. The result is a
mass of cold water along the coast with a mean annual sea temperature of
about 15°C. This current of cold water is one of the major reasons for the
as the surface water flows westwards into the Atlantic Ocean and is replaced by
upwelling cold bottom water from the Atlantic Intermediate Current. The result
of the surface water flows westwards into the Atlantic Ocean and is replaced by
south-western currents of Atlantic. Along the western margin of the Benguela Current part
westward wind driven current, the Benguela Current flows northwards along the
The climate is strongly influenced by the Benguela Current, a branch of the

The climate is strongly influenced by the Benguela Current, a branch of the

2.1 Climate

2.1 Natural Environment

The Topoform of the Kuiseb Valley

The Topoform of the Kuiseb Valley is limited to a number

of settlements in the lowest part of the Kuiseb. Communities are situated along
the river bed. South of the river bed sand bars of

South of the Kuiseb's mouth. North of the river (the lower)
the Kuiseb extends towards the inland. This is where the

of the Kuiseb. Strung with a number of settlements, extends towards the
of settlement in the Kuiseb valley is limited to a number
layer the air has the normal (high) temperature, whereas normally temperature decreases with increasing height. Circulation of the air around the anticyclone of the South Atlantic leads to a flow of air more or less parallel to the coast. The cool, moist air is warmed up when entering the warm land, resulting in an increase of the water holding capacity of the air. Every drop of water evaporates and rain cannot occur in such conditions. The influence of this climatic system decreases with increasing distance from the sea. As a result the amount of rain increases along this gradient.

Temperatures along the coast are cool and show little diurnal variation, due to the influence of the cold sea water and the frequent occurrence of fog and/or stratus clouds. Inland, maximum temperatures increase (up to more than 40°C) with distance from the sea. Sometimes a strong warm anticyclone is situated on the central plateau of Southern Africa. This air mass can then descend towards the coast. As a result of increased atmospheric pressure, adiabatic heating (without adding or reducing heat) occurs and results in strong, extremely hot and dry winds (the dreaded "east" or "berg winds").

The full establishment of the Benguela Current and its associated cold water upwelling system in the Late Miocene (somewhat over 5 million years ago) promoted the development of the current Namib Desert Regime. During the Quaternary, the level of the riverbed of the Kuiseb varied a lot, depending on the climatic conditions; the course of the Kuiseb also changed. In the beginning of the Quaternary, the Kuiseb course extended from the Klein Klipneus/Klipneus area westwards to the northern half of Sandwich Bay. Later on during the Quaternary the course of the lower Kuiseb shifted towards the north. Subsequently, a delta was formed, south of Walvisbay. This displacement may have been caused primarily by the northward encroachment of dunes from the main Namib sand sea. The shift in the lower course was only possible because here the Kuiseb did not flow in a canyon but rather in a broad valley with low banks.

2.1.2 Geography and Geology

In the Kuiseb area, the following geographical and geological entities can be recognized:

2.1.2.1 River Valley of the Kuiseb

The Kuiseb is the largest and most important river of the Central Namib. It has a large catchment area (14,700 km²) which extends for a great deal over the
Kushed:crises towards the coast. As a result, the coastal area was eroded and eventually a basement formed where the river entered the sea. The coastal area was then filled with material eroded from the erosion and the river. The coastal area was then filled with material eroded from the erosion and the river.

The occasional flooding of the Kushed is probably the most important factor in the development of the coastal area. The floodwaters deposit material in the coastal area, which eventually forms a beach. The beach is then eroded by the sea, and the process repeats itself. The occasional flooding of the Kushed is therefore an important factor in the development of the coastal area.

The coastal area is also affected by the wind and wave regime. The wind and wave regime in the coastal area is characterized by strong winds from the west and south-west, which often cause large waves. These waves erode the coastline and deposit material in the coastal area. The wind and wave regime is therefore an important factor in the development of the coastal area.

The coastal area is also affected by the tides. The tides cause waves to wash up on the coast, which erode the coastline and deposit material in the coastal area. The tides are therefore an important factor in the development of the coastal area.

The coastal area is also affected by the rainfall. The rainfall in the coastal area is characterized by intense storms, which often cause heavy rainfall. The heavy rainfall erodes the coastline and deposits material in the coastal area. The rainfall is therefore an important factor in the development of the coastal area.
The effect of these floods is of considerable importance for the ecosystem. Sand, blown into the riverbed from the dunes, is scoured away, preventing the dunes from crossing the Kuiseb and advancing northwards onto the gravel plain of the Central Namib. A large amount of fruit and seed material coming from Khomas Hochland and other areas are transported, germinate and thus enrich the flora of the valley. The subterranean water supply, which maintains the riverine woodland on the riverbanks, is replenished. On the other hand, the colonization of the riverbed by trees and other perennials is restricted because floods uproot and wash away virtually all plants hit by the stream of water.

The drought conditions that have been in existence since the beginning of the eighties, and the construction of many farm dams on the tributaries of the Kuiseb have reduced the number and the strength of floods considerably. Together with the dominant high-energy SSW-SW winds, this allows the Southern Namib sand sea to cross the Kuiseb west of Rooibank.

In the eastern part of the Kuiseb area the Kuiseb formation (Damara sequence, late Precambrium) is the main exposed lithographic unit. In this area schists are the most abundant geological formation (e.g. Khomas Hochland, Kuiseb Canyon). Parts of the Kuiseb formation (especially in the western part of the Kuiseb area) are covered with recent layers of sand, gravel, calcrite and alluvium of the Cenozoicum (Tertiary and Quaternary).

2.1.2.2 Gravel Plain of the Central Namib

The gravel plain of the Central Namib covers a vast area north of the Kuiseb. The altitude of the plain gradually increases from the coast towards the east (up to 800-900 m) and in several places granite mountains (inzelbergs or bornhardts) occur. In the west there exists a calcrite mountain range (Swartbankberg-Hamiltonberge-Witpoortberge). On the plain itself numerous washes form small depressions in which some water accumulates after a rain shower, sufficient to maintain a vegetation different from that which occurs on the rest of the plain.

As in the Kuiseb area, the gravel plain is covered by Cenozoic layers of sand, gravel, etc....

2.1.2.3 Coastal Plain, South of Walvisbay

In the Walvisbay area between the coastal dune row and the dunes which cross the Kuiseb there is a depression. This flat plain (called Dorob) extends from the
Only at a few places do outlying rocks of various ages survive. Tertiary can be found: calcareous and red, partially consolidated, dunelike deposits largely during the Quaternary. In some Quaternary older formations (mainly

The sand sea of the Southern Namib as well as the coastal dunes were formed along the coast, between Sandwich Bay and Walvis Bay, plans of Salisbury not.

This dune area extends from the Kuiseb, southwards to Luderitz.

2.1.2.6 Sand sea of the Southern Namib

A. Berekere is a typical plan for these mountains, vertical elevation in comparison with neighbouring highlands (e.g., Hoch Aspergolf), together with their height which allows the interception of fog, offers a niche for

ion (camarae sequence, the Precordillera). The calcareous rich conditons, Hamilton and the Whipplebore, this entity belongs to the Karoo Range or from the Kuiseb and crossing the Swakop (Swartbanker, Hamilton Range or

This mountain belongs to a range of calcareous mountains extending northwards

2.1.2.5 Swartbanker

receives a considerable amount of water through fog, cracks and at the foot of these inselberges, some inselberges (e.g., Vogeliedenberg) phototrophic, a large number of habitats for plants in crevices, gullies, depressions, some due to erosion of the surrounding (softer material, contain, due to their more

sometimes later translated by dolomite dykes, these granitic rocks, which can melt

Inselberge were formed by magmatic intrusions in the Cambrian, which were

2.1.2.4 Inselberges

places shall crusts appear and the short distance from the sea, sea water seeps into the soil, and in several

Walvis Bay Lagoon towards the border with Namibia. The soil contains many sand
2.1.3 Vegetation of the Kuiseb area

The variation of geographical and geological entities in the Kuiseb area creates a number of very different biotopes which gives rise to a considerable diversity in plant communities.

2.1.3.1 River Valley of the Kuiseb

The riverine communities of the Kuiseb are of considerable importance to the Central Namib biome since they provide shelter and food for many species of animals. It is also the most important residential area of the Topnaar.

In the riverbed ephemeral species germinate and grow after a flood or heavy rain. The number of species occurring in a certain area of the riverbed in any given year is determined by the following factors:

1. Flood:
   - Affluents of the Kuiseb coming from different regions. The species composition can be different depending on which affluents were flowing.
   - The point in the riverbed where the flood stopped and deposited seeds and fruits.
   - Duration of the flood. The longer the flood continues the deeper the water can penetrate into the soil of the riverbed. Sometimes the amount of water, thus drained into the soil, is too little to support the full development of seedlings.

2. Riverbed:
   - The water-holding capacity of the soil can be a selective factor. For complete growth and development different plants need different amounts of water.
   - Availability of suitable places for germination.

3. Grazing:
   - The game and the livestock of the Topnaar are selective consumers of germinating and growing plants. The composition of plant communities is influenced to a certain extent by the grazing habits of these animals.
and Acaena rhizomata (Spreng.) F. Muell. occasionaly occur.}

have been abandoned by the Tepaar, in this area are Capsane flaccida and Acaena rhizomata. Because no water can enter this area, the northern species are dying and becoming rare. In the southern part, however, it is generally in a very good condition. The vegetation is composed of the same species as the southern part but is generally in a very good condition. The vegetation is a complex bush and due to this, contributes to the formation of hummocks. The

ex Bonge ex Spreng. is characteristic for this area. In some places, Acaena rhizomata, Acaena rhizomata var. rhodophylla, and

Tamarix ramosissima (Gmel. K. Koch) F. Muell. occasionally occur.}

Sometimes together with Schiedea pinnata, the

dune the hummock forming grass, Schiedea pinnata (Gmel. K. Koch) F. Muell. and Acaena rhizomata var. rhodophylla. The

higher up, the plant community consists mainly of Acaena rhizomata.}

some places, a single Buclaya pseudopendulosa E. F. Muell. ex A. D. C. can be found.}

loeschenia bulgarica (O. Kuntze) O. Hoffm. is the most abundant species in the

distance. In the valley, Schiedea pinnata, Downstream, from Southerier Peclet-Leuchtenbergia (O. Kuntze) O. Hoffm. is a regular companion in this community; sometimes together with Tamarix ramosissima (Gmel. K. Koch) F. Muell. ex Spreng. Schiedea pinnata var. rhodophylla. Acaena rhizomata var. rhodophylla (Gmel. K. Koch) F. Muell. ex A. D. C. is characteristic by the

The vegetation on and immediately above the flood plain is characterized by the

due to overfishing.}

The number of species occurring decreases towards the coast due to the smaller

The Tepaar of the Kusib valley.
2.1.3.2 Gravel Plain of the Central Namib

This large, flat area is almost totally devoid of plants for long periods of time. Shortly after a rain shower, however, it may change into a green carpet of, mainly, grasses. The genus *Stipagrostis* is well represented. Most of the perennial vegetation lives in washes and small depressions.

Due to the influence of climatic factors the vegetation changes with distance from the sea. The gravel plain which is closest to the sea, receives a lot of precipitation through fog but very little through rain. Stones are covered with lichens while *Arthraerua leubnitziae* (Kuntze) Schinz, *Zygophyllum stapfii* Schinz, and *Asclepias buchenaviana* Schinz grow in small depressions. In a zone immediately to the east, both the precipitation due to fog and rain is very low. Some perennial vegetation is limited to small washes. After a rain shower, however, a plant community dominated by grasses appears. Further east, the amount of rainfall increases. As a result, the number of species and their coverage increases. Some trees, e.g. *Acacia reficiens* Wawra, *Acacia ertoloba* E. Meyer, *Parkinsonia africana* Sonder and *Boscia foetida* Schinz subsp. *foetida*, grow in washes.

2.1.3.3 Coastal Plain, South of Walvisbay

This coastal plain, called Dorob, is a wet depression between the coastal dunes and the northern Kuiseb arm. Here vegetation consists mainly of *Phragmites australis* (Cav.) Steudel, *Odyssea paucinervis* (Nees) Staff and *Salsola nollothen*-
A few kilometers southwest from the mountain, huge granite cliffs are found. These cliffs are composed of the same geological unit.

On the other hand, acanthoscurias horridus (W.M.), Ex. Hamilton, A. Hoek.

In the valley, granite cliffs are found exclusively in the mountain. These cliffs are composed of the same geological unit. Exposed rocks are nearly complete, cracks where run off water can collect. Exposed rocks are nearly complete. Plants grow in crevices and in sharp contrast to the surrounding desert plain, plants are abundant. This results in a relatively well-developed vegetation. The Swartbankheuwel granite range forms a linear scarp.

2.1.3.5. Swartbankheuwel and Hamilton Range

Mainly of Sanacaulon montanum Eng. Periss. persists. Majority of Sanacaulon montanum Eng. Periss. persists. There is a complex of small granite hills which

not far from the mountain. Mesembryanthemum guttulatum Lx is quite an abundant

vegetation here.

Wrekak is a small granite inselberg, 640 m high, WNW of Cobbedo. Plant com-

ments on the mountain. Mesembryanthemum guttulatum Lx is quite an abundant

mounds are found in the small crevices. Gullies and depressions and on the granite

mounds. Small granite inselbergs, 840 m high, WNW of Cobbedo. Plant com-

2.1.3.4. Inselbergs

Och Banskopie are widely distributed and sometimes form mohosepsic stands.

The Table Mountain range.
near the Kuiseb (Swartbank). *Citrullus ecirhosus* Cogn. is quite common on the plains around the mountain.

### 2.1.3.6 Dunes

The sand dunes pose serious problems for the establishment of plants: instability of the loose sandy soil, low precipitation, high temperatures and high insolation (both resulting in huge evaporation). Most perennials show adaptations to these conditions through xeromorphy (reduction of the exposed leaf area: rolled, water storing or reduced leaves). The development of long taproots which can reach the water table or superficial roots extending over a relatively large area are other examples of adaptations. Most dune plants immobilize the moving sand which results in the formation of large hummocks.

The dunes on the salty plain along the coast between the lagoon of Walvisbay and Sandwich Bay are mainly covered by *Salsola nollothensis* Aellen. More inland *Tamarix usneoides* E. Meyer ex Bunge covers whole dunes.

Most of the dunes south of the Kuiseb, are almost unvegetated: only in some places does *Stipagrostis sabulicola* (Pilger) De Winter and *Acanthosicyos horridus* Welw. ex Bentham & Hook. f. form large stands on the lower faces of dunes. In the interdunal depressions grasses occur. On the slipfaces towards the Kuiseb river *Tamarix usneoides* E. Meyer ex Bunge and *Salvadora persica* L. cope with the moving sand.

In the dunes between Dorob and the northern Kuiseb arm, *Stipagrostis sabulicola* (Pilger) De Winter and *Acanthosicyos horridus* Welw. ex Bentham & Hook. f. are quite abundant, together with *Zygophyllum simplex* L. and especially *Trianthema hereroensis* Schinz. In the depressions between the dunes *Zygophyllum stapffii* Schinz and *Arthraerua leubnitziae* (Kuntze) Schinz appear.

### 2.2 Plants in the Kuiseb Topnaar Culture

The Topnaar are much influenced by the Western way of living. Due to this, a great part of their knowledge of plant uses is now lost. Whereas in the past they depended completely on the natural environment, this dependency has become much weaker with time.
heps and shrubs form the core of the landscape, etc.

Fodder for goats and cattle is reasonably abundant. Acacia pods and several

Plants are no longer used for fibers, dyers, tannins, etc.

more than a century.

Witchcraft has completely disappeared due to the influence of missionaries for

The rheuseb carry much dead wood and other uproot whole trees.

Fuel is obtained from the trees found along the Kusseb rivers. The floods in

highly prized.

Wood is no longer used as a building material since garbage material is more

body powder, tobacco, and the like.

Women are known to use yet other plants to manufacture cosmetics, perfume,

lavatining.

Ion time of the milk. Also many wild herbs are used for herbal teas or as food

Several other foods are used to curdle milk in order to increase the consumption

aliments.

environment and the scarce vegetation, also the Tohean and medicines for all

the surrounding environment, to fulfill certain needs. Despite the harsh Naumb

It is generally known that all indigenous people look for the plants they need in

beliefs of the people, their ideas about plants, the way animals use plants, etc.

medicinal plants depend upon the availability of plants in the environment. The

medicinal plants are cut, peeled, dried, and smoked. The use of medicinal plants as a decoration in water is made. The use of

mobile Chinwai and all villegas once a month and provides the local population with

The majority of the plants are used for medicinal purposes, even though a

plants. Besides some less important edible fruits, are short in this area.

is processed in such a way that it can be stored for up to several years. Other local

of the Tohean diet. Available during 3 months of the year, the fresh jena is full

Now corn has taken over this position, but the jena still forms an important part

jena (ischnochironomus tortuatus). In the past this wild cockroach was their staple food.

The Tohean of the Kusseb valley use one important wild food plant, the
2.3 Plant Uses

The plants catalogued below are arranged by family in alphabetic order. Nonvascular, more primitive plant families are listed before the vascular plant families. Following the scientific plant name, the herbarium specimen, collected by the author, is mentioned (VdE is the abbreviation of Van den Eynden). All specimens are deposited at the National Herbarium of Namibia and duplicates are deposited at the herbarium of the DERUN. If existing, a Nama name is given, as well as the common names in English (E) and/or Afrikaans (A) as found in the literature. Each plant is briefly described and its distribution in the Kuiseb area is given. All plant uses by the Topnaar are mentioned as well as uses in other areas or by other people, as found in the literature (all consulted books and articles are mentioned in the literature list). Botanical terms are explained in the glossary.

2.3.1 Nonvascular Plants

**Alariaceae**

*Ecklonia maxima* (Osbeck) Papenfuss

Nama ḥuri || ḥāb, ḥuri || ḥāb, || gamïgūib

The botanical name *Ecklonia* is derived from Ecklon (1795-1868), a pharmacist, who collected many plants in the Cape Colony. This marine plant, which can grow up to 7 m long, has a dense cluster of flat pinnae (leaves) and is found on the coasts of southern Namibia and South Africa. When mature the stipe (stem) becomes hollow and the terminal part forms a large float. This marine plant is only found where the sea water temperature does not exceed 15° C.

The stem of this seaweed is roasted and ground. The powder that is thus obtained (mixed with vaseline) is rubbed on wounds and burns. This treatment prevents infection and accelerates healing.

**Basidiomycetes**

*Battarea sp.*

Nama !ōasāb

This light brown fungus is found on the banks of the lower Kuiseb river. It grows approximately 25 cm high, has a cap of 8 cm in diameter and exhibits a dull powdery appearance. Due to insufficient research, this fungus has not yet been conclusively identified. According to a preliminary study however, it may be *Battarea guicciardiniana* Ces (K.M. Jacobson, personal comment).
Lichenes

*Parmelia holcricola* (Thunb.) Ach.

**Figure 3:** Parmelia sp.

Insected undersides of cows and cows.

**Pusarin** (1983) says the mixture of Bullerena spores and fat is also rubbed on
from sunburnt and drying out,
a red ground stone called *junnaj* (name) are used as a cosmetic. It also provides the skin
are also rubbed on rough spots of the body. Spores (mixed with fat or *junnaj* are
are also rubbed on burns to reduce the pain and hasten healing. They
2.3.2 Vascular Plants

**Amaranthaceae**

*Arthraerua leubnitziae* (Kuntze) Schinz

Nama  *saris*
Common name  ink bush (E)

![Figure 4: Arthraerua leubnitziae](image)

This bush is common on the gravel plains of the central and northern Namib, where often it represents the only vegetation. The eastern limit of its distribution corresponds to the limit of the coastal fog belt. The plant cannot absorb fog directly, but utilizes water that accumulates on the soil surface through its roots. The stems of this plant are segmented, succulent and forked (furcated), up to 50 cm long, with small triangular leaves that are often reduced to scales. The small flowers, surrounded by dry, greyish bracts, grow in dense inflorescences at the end of the stems. The outer part of the perianth is covered with silky hairs, the inside is scarlet.

A decoction of the roots is drunk to ease tremblings.

**Arecaceae**

*Phoenix dactylifera* L.

Nama  -
Common names  dadel (A), date palm (E)

Date palms were introduced in the Kuiseb delta by the Germans, who planted them in the garden of a missionary post near Rooibank (Schepmanndorp). Since then, these trees have spontaneously multiplied and extended their range. This
Milkweed Family

Asclepiadaceae

The Tophar is a cymophyllal stem covered with the remains of old leaf-bases. The very large leaves are composed of long linear-needle-shaped, white, papillose corolla lobes. Each flower has a hairy and papillate corolla tube, and triangular corolla lobes. Each flower develops into a pair of follicles. The seeds are about 1.2 cm long and split open. The stem contains a clear fluid. The large salmoun-purple flowers of about 6 cm can be up to 2.5 cm thick, each having a tuft of scale leaves. The 12 to 16 ribs of the thorny and spiny stem are about 10 to 20 cm high and 2 to 5 cm thick. The thick leaves are almost elliptical and about 1 cm long, and have no keels. The succulent plant, named after Van Hoon, himself a famous grower of succulents, and Dr. A. B. Curtin, a plant collector in Angola in the 1840s, is found in

Name: *Hoodia curtonii* (Hoek & G. Decne.)

*Figures 5: Hoodia curtonii*
The stems are eaten raw after the removal of the outer skin and thorns. Eating this lowers high blood pressure, cures colds and indigestion and relieves stomach pains. The flesh is applied to the eyes to relieve eye pains. Pieces of the stem added to sugarwater give a refreshing drink.

**Orthanthera albida** Schinz [VdE 3.4.a]

Nama |arib

This erect half-shrub, with hairless, pale greyish stems grows in washes on gravel plains and in the mountains of the Central Namib. The linear leaves of 3-50 by 1-2 mm are often reduced to scales and are absent at flowering time. The sessile flowers, which are apple-green on the inside and greyish on the outside of the corolla, grow in groups halfway up the slender stalks. The green, blackish, marbled follicles are up to 10 cm long and 1-2.5 cm wide. They split open when ripe to release many brown seeds with long white hairs.

The stems are chewed to clean the teeth. Drinking a decoction of the stems or chewing the stems relieves stomach pains. For the same reason roots can be used. A decoction of the ground seeds is drunk to cure kidney and back diseases. The root is put in beer to improve its flavour. The fruits are eaten, mainly by children. Young fruits are eaten completely, but in the case of old fruits only the inner part of the peel is eaten (the outer part and the seeds are removed).

**Pergularia daemia** (Forsk.) Chiov. var. daemia [VdE 14.2.d, VdE 6.2.e]

Nama |gubib, |guwib, dailgubib, |gütama ||öb

The name of this strong herbaceous twiner with milky latex, which often covers shrubs and trees along riverbeds, is derived from the Latin word *pergùla*, penthouse, as the plant can be used to overgrow penthouses. The stems are covered with 1 mm or longer stiff erect hairs and bear opposite, heart-shaped leaves of 2-12 cm long. The greenish-white flowers have a double white corona at the base of a staminal column. The fruits are paired follicles of 5-8 cm long and 1 cm in diameter, covered with short fleshy prickles and release many seeds with long white hairs when they split open.

Latex added to drinking water creates a poison which can be used to kill any animals. A decoction of the roots is drunk as a remedy for venereal diseases and vein problems. The powder obtained by roasting the root (or leaf) and grinding it is applied to wounds.

In Botswana and South Africa (Zululand), the leaves are eaten as a wild spinach. The latex or a decoction of the roots is used in many countries as a medicine to treat several illnesses, such as venereal diseases, arthritis, muscular pains, asthma, rheumatism, snake-bites, etc. The latex may also be used as a fish poison.