EDIBLE WILD PLANTS OF SOUTHERN AFRICA

DATA ON THE NUTRIENT CONTENTS OF OVER 300 SPECIES

BY

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FOREWORD

In March 1967 the late Dr. A. le R. van der Merwe and Mr. I.M. Burger collected samples of edible wild plant species in Northern Natal. They also obtained information on the use of these plants by the local inhabitants. All these plants were identified by the Botanical Research Institute and the nutrient contents determined in the laboratories of the Food Chemistry Division of the NFRI.

A report with the title: "Suid-Afrikaanse veldkosse: I. Makatinivlakte, Noord Natal" was published in April 1967. The intention then was to undertake field trips to different regions in Southern Africa and publish a similar report on each region. A few trips were undertaken to Namibia, Namaqualand, Venda, Eastern Transvaal, Eastern Karoo and Southern Zimbabwe. For practical reasons the idea of bringing out a series of reports was dropped in favour of either a book or a single report at a later stage.

The results of the analyses of more than 300 samples of the edible parts of wild plant species more commonly used as food are given in this report.

The methods of analysis are mentioned and a few of the more important plants are briefly discussed. A comprehensive list of references is also given.

INTRODUCTION

In November 1964 the first sample of an edible wild plant (marula nuts) was submitted to the Division of Food Chemistry of the National Nutrition Research Institute of the CSIR (in 1969 the name of the Institute was changed to National Food Research Institute) for determination of the nutrient content. This was followed by the analysis of some edible plants (mainly fruits), growing near Pretoria, during the summer of 1965/66.

In February 1967 the determination of the nutrient content of edible wild plants and fruits of the Republic and SWA (Namibia) which play a role in the diet of the population was approved as a task of a project on the Research Programme for 1967/68. The project under which this task resorted was: The study of the composition of South African Foods. This task was kept on the Research Programme until 1982. During 1982 and 1983 a further number of samples were obtained from Namaqualand and the Richtersveld (submitted by Miss Feona Archer). This information augmented that obtained during field trips undertaken in 1971, 1972 and 1976.

Ideally the services of a botanist should have been available for organising field trips and the collection of material during the different seasons in a properly equipped vehicle. The lack of necessary funds, however, excluded such a possibility.

The late Dr. A. le R. van der Merwe (medical doctor/amateur botanist) of the Division of Field Studies of the Institute made a point of collecting material wherever he went on field trips, until his untimely death in December 1969.

Several field trips were undertaken by the Head of Food Chemistry and once Mr. P.J. van Niekerk of this Division collected a number of samples in Venda.

A research group of the Havard University in the U.S.A. studying the Kung San (Bushmen) in North-Western Botswana, submitted a large number of samples for analysis in Nov./Dec. 1967. A few other research workers in Botswana also submitted material for analysis subsequently.

Most of the material obtained from the northern parts of Namibia (SWA) were submitted by the ethnologist of the Windhoek Museum during 1968.

Many letters were written to farmers and other knowledgeable persons requesting material for analysis. Most of the times response was poor and personal contact was much more rewarding.

MATERIAL AND METHODS

Transporting fresh material, with as little deterioration as possible from the field to the laboratory is always a problem. This is especially the case with soft fruits which are easily bruised and leaves which quickly lose moisture. Fruits which are not easily bruised, tubers, corms, bulbs and roots present no problems. The underground edible parts must be cleaned thoroughly with a brush under tapwater, to remove all traces of sand and soil, and finally washed with distilled water.

It is a good precaution to wash fruit and leaves also with distilled water before processing, to remove traces of dust and soil particles.

Paper and cotton bags are better containers than plastic bags for transporting plant material in. In the latter, material soon becomes mouldy under warm conditions.

Determination of the total moisture content is very important as all results are eventually calculated on this moisture content. Materials which lose moisture quickly, such as certain types of leaves, for instance, should be collected in pre-weighed bottles with tight-fitting screw caps. Material for vitamin C determination can be collected in pre-weighed 100 ml bottles containing about 50 ml metaphosphoric acid/acetic acid solution.

Total moisture and vitamin C contents were determined as soon as possible after the material arrived in the laboratory. Carotene was determined on the fresh material as well. During freeze-drying some vitamin C and carotene is destroyed. All the other determinations were don on the freeze-dried material.

The freeze-dried material was ground, preferably in a porcelain mortar with a porcelain pestle. Tough and fibrous material was stored preferably in brown or plastic bottles with air-tight lids. The moisture content of the freeze-dried material was determined as this value is necessary for calculating the nutrient values on the total moisture basis. It should be noted that freeze-dried material is often hygroscopic. Sometimes it is not possible to complete all the determinations within a reasonably short period. In such cases it is advisable to check the moisture content again when the final analyses are made.

Plants were identified by the Botanical Research Institute in Pretoria.

It was often difficult to collect enough material of a plant for all the determinations. When insufficient material was available, single determinations were done, but otherwise, determinations were done in duplicates. Where more than 1 sample of a plant was analysed, the average values were reported.

Obvious outlier values were discarded.

The standard analytical methods of the Division of Food Chemistry based on methods of the AOAC, Association of Vitamin Chemists or other published methods, were used for the estimation of the nutrients.

Briefly they are as follows:

Moisture: Loss of mass on drying overnight (16h00-08h00) in aluminium dishes (or glass bottles in special cases) in a vacuum oven at 70°C.

Fat or oil: Extraction with petroleum ether (B.P. 40-60°C) in a Soxhlet apparatus.

Protein: Kjeldahl nitrogen x the appropriate factor. Usual macro-Kjeldahl method but using selenium reaction mixture of Merck, (Wieninger, F.M., Chemical Abstracts 1937, 31 5937) as catalyst.

Crude fibre: Weende method (AOAC) - residue remaining after boiling with dilute sulphuric acid and dilute sodium hydroxide solution.

Carbohydrate: By difference: 100-(moisture + fat + protein + crude fibre + ash percentages).

Ash and minerals: Material ashed in silica dishes at 550°C in muffle furnace until grey or white ash was obtained. The minerals were determined in the dilute hydrochloric acid solution of the ash by atomic absorption spectrophotometry (Perkin Elmer atomic absorption spectrophotometer).

Phosphorus: Determined in the same ash solution by a colorimetric molybdenum blue method based on that of Bolts D.F. & Mellon M.G. 1947 Anal. Chem. 19 873.

Thiamin and riboflavin: By fluorometric methods and **nicotinic acid** by a microbiological method described in Methods of Vitamin Assay, 1966, Association of Vitamin Chemists (3rd Ed.).

Carotene: Total carotene was determined by a colorimetric method based on an AOAC method and α and β Carotene by and HPLC method developed in the Food Chemistry Division.

Vitamin C: Microfluorometric method - AOAC 12th Ed. 1975 method no. 43.056 - adapted to suit our conditions.

Energy value (kJ/100 g): Protein and carbohydrate % x 16,8 and fat % x 37,8 or calories x 4,2.

Fatty acids: Gas chromatography.

Amino acids: Ion exchange chromatography - Beckman Amino Acid Analyser.

DISCUSSION

The results given in Tables 1,2 and 3 should be regarded as an indication of the possible nutrient content and definitely not as absolute values. In the few cases where more than one sample of the same plant species obtained from different areas were analysed, differences, especially with respect to mineral content, were noticed.

Leaf material, if not carefully washed with distilled water before analysis, gives erroneously high figures for iron content due to the presence of dust particles. As already mentioned, the underground edible parts should, for the same reason, be washed very carefully before being peeled.

It is difficult to obtain a representative sample for moisture and vitamin C determinations of juicy fruits with flesh adhering tightly to the sone. The fruit of the marula (*Sclerocarya birrea*)

is a very good example on which we obtained moisture values ranging from 85 to 92% for instance. It is easy to lose some juicy while cutting pieces off for analysis. Duplicate values seldom agree well and one has to resort to replicate analyses.

The higher the moisture content, he bigger the influence on the nutrient content. Nutrient values of different plants must only be compared when expressed on the same moisture basis. The following example illustrates this point: the vitamin C content of marulafruit flesh is about 200 mg per 100 g (moisture content about 9%). At a glance the fruits therefore seem equivalent in vitamin C content. Taking the moisture contents into consideration, it is obvious that the marula is a superior source of vitamin C when expressed on the same moisture basis. Marula juice contains approximately for times as much vitamin C as orange juice. The marula fruit is suitable for making marula juice and this juice is now commercially available. The fruit is commonly used by Blacks for making beer of varying potency.

The marula is regarded as a delicacy by many Blacks and it is indeed a nutritious and very tasty food. It is a good source of protein, oil, minerals and thiamin. The marula nut oil has a high oleic acid content and preliminary experiments done by the Division of Oils and Fats of the NFRI proved it to be a very stable oil. Each kernel contains two and sometimes three embryos (nuts) which are rather difficult to extract intact as it is soft. The kernel is hard and fibrous but when given a suitable blow, the tight-fitting plug covering each embryo is dislodged and the embryo can then be extracted. Each kernel yields about 1 g of nut.

An average sized marula fruit has a mass of about 38 g of which the edible portion constitutes 43%, peel 38% and kernel 18%.

Many of the plant species of which the leaves are used as potherbs or spinaches such as *Amaranthus, Urtica, Asteraceae* and *Chenopodium* have a fairly high protein content. The protein of amaranth leaves, for instance, can supplement that of maize meal, the former having a lower sulphur amino acid content than maize protein but higher lysine and tryptophan than maize protein. When eaten together a better quality protein is provided.

In general these leaves are good sources of calcium, magnesium, iron, carotene and sometimes also vitamin C. They can, however, contain the nutritional stress factors oxalate and nitrate. The old leaves and stems of amaranth, for instance, are generally not eaten, as they contain more nitrate than the young leaves and stems. Nitrate and some of the oxalate is soluble in water and the cooking water should, therefore preferably be discarded.

Oxalates can interfere with the absorption of Ca. Nitrates can be reduced by oxidation - reduction enzyme systems in plants to nitrites which, in turn, can react with secondary amines, forming nitrosamines. These substances are carcinogenic.

The leaves and twigs of the two best known edible wild plants in South Africa are used for making herbal teas. These are the popular rooibos tea (*Asphalathus linearis*) and honey tea (*Cyclopia genistoides*).

The leaves of *Helichrysum* sp., *Artemisia afra* or wilde-als and *Myrothamnus flabellifolius* are used as medicinal teas. The latter plant has the interesting characteristic that when the dry twig with leaves is put in water, the leaves become green again within a day or two - hence the popular name of resurrection plant.

The dried leaves of *Hibiscus sabdariffa* are often used to make a health drink. One must remember though, that although the nutrient content of the dried leaves is high, the infusion made thereof contains only a fraction of these nutrients.

The wild fruits are usually smaller than domesticated fruits and some species are rather sour. Many are, however, better sources of vitamin C. The berries have a large seed in relation to the thin layer of flesh which is covered by a thin skin. The berries of the *Grewia* sp. are good examples. The flesh sucked from handfuls of the berries, does provide some nourishment in the form of minerals and carbohydrates. The seeds, though hard, are sometimes chewed by the San, providing more protein and minerals.

The fruits of the more important *Strychnos* sp. are large, the size of a medium to big orange, with a thick shell enclosing a number of large seeds covered with flesh. The latter is quite pleasant tasting but sour near the stone which is not eaten as it may be poisonous.

One of the very few wild fruits which is totally edible - skin, flesh and seeds, the amatungulu, Natal plum or *Carissa macrocarpa* is bright red in colour, the size of a small plum and a good source of vitamin C. The fruits of the other three *Strychnos* species have a relatively large stone and a thin layer of flesh.

The attractive looking dark purple fruits of the *Acokanthera* sp., belonging to the same family as *Carissa* are, however, deadly poisonous!

Another very attractive looking fruit, with its bright red colour, called the sour plum or *Ximenia caffra*, very sour but a good source of vitamin C. It is eaten when more or less overripe or dried.

In the Transvaal the evergreen stamvrug trees (*Bequaertiodendron magalismontanum*) with their dark green foliage are a familiar sight on the granite koppies. The name of the fruit derives from the fact that the bright red small plum-sized fruits are borne on the old wood, often in fairly dense clusters. The fruit ripen in December/January and have a milky latex under the skin. The vitamin C content is on the low side and the thin layer of sweet flesh becomes quite sour next to the stone.

A peculiarity of this fruit is that in some regions of Northern Transvaal some trees bear much bigger and sweeter fruits than others.

The mobola plum or *Parinari curatellifolia* is a large tree of the Eastern Transvaal and Zimbabwe and the Caprivi. *Parinari capensis* subsp. *capensis* a creeping shrub growing in some sandy areas in Transvaal and *P. capensis*, subsp. *incohata*, a dwarf shrub growing on the sandy plains of Kwa Zulu and Mozambique are known as the sand apple. The leaves and fruit of shrub and tree are very similar and the fruits taste alike.

The greyish coloured fruits have a fairly dry flesh (65% moisture) with a sweet taste and are eaten fresh or used for making a porridge or a syrup providing the basis for a refreshing cool drink. An intoxicating liquor can also be made from the fruit. The average vitamin C content of the few samples analysed was 71 mg/100 g.

The nut is eaten raw or roasted and is a good source of protein, oil, minerals, thiamin, riboflavin and nicotinic acid. The oil contains a high percentage of α-eleostearic acid, an isomer of linoleic acid.

Another tree with a very useful fruit indeed is the manketti or *Ricinodendon rautanenii*. This fruit is an excellent source of food for many Blacks and San. These gregarious trees grow in North-Eastern Namibia, Northern Botswana, South-Western Zimbabwe and a small colony near the eastern border of Zimbabwe in central Mozambique. There are a few trees in the Ellisras district in Transvaal.

On average the mass of the light brown ripe fruit is about 10 g, a thin inedible outer skin covering the 3 mm thick layer of edible dry sweet flesh. The nut inside the very hard shell of the seed has a pleasant nutty taste, raw or roasted. The flesh constitutes about 20% and the nut about 10% of the whole dry fruit.

The dry flesh contains about 30% sugar, mostly sucrose. It is a good source of Mg, K, thiamin, nicotinic acid and vitamin C. Since the dry flesh is, however, eaten in the form of a soup or a porridge, much less of these nutrients are then taken in.

The nut contains about 57% oil and 26% protein. The Mg, K and P contents are high, it is a good source of Ca, Zn, thiamin and riboflavin.

During the period 1911 - 1916 manketti kernels were exported to England and Germany where the oil was extracted and used for making margarine. The oil contains 42% linoleic acid, 15% oleic acid and 24% of a mixture of α and β eleostearic acid. It contains only α- and β-tocopherol in the ratio of 1:18.

The manketti is an extremely important and nutritious food of the King San in North-Western Botswana and North-Eastern Namibia where they regard it as their primary food.

In Aimbabwe the fruit of *Uapaca kirkiana*, known as the wild loquat or mohobohobo, is very popular as a fresh fruit and a pleasant-tasting wine can also be made from it. The flesh surrounding the stone is sweet and pleasant-flavoured. The skin is hard and is not eaten.

The 'vlakappel' or *Eugenia albanesis* is dwarf shrub growing in grassveld from the Eastern Cape to Natal. Each stem bears one or at the most two fruits the size of a small apple. The soft skin, yellow to red in colour, covers the yellow flesh and one or two seeds. The flesh has a pleasant, refreshing taste without the sour aftertaste which most wild fruits possess. The fruits are eaten fresh and contain 24 mg vitamin C per 100 g. They are a fair source of this vitamin.

The dry fruit (64% moisture) of the wild medlar *Vangueria infausta* is a popular item in the diet of many Black people. The slightly sour but fairly pleasant tasting flesh is not an exceptional source of any particular nutrient except potassium.

The fruit of *Pappea capensis* (indaba tree) is a furry green capsule which splits, revealing a shiny black seed completely enveloped in a thin brilliant orange-red coloured jelly-like arillode. This is edible and pleasantly flavoured. A good jam or jelly can be made from it and it is also suitable for making vinegar or and alcoholic drink. The seed is edible and the oil is unusual in containing up to 45% linolenic acid and also 35% oleic acid. The tree is widespread in Southern Africa. In 1920 (Lansdell) the commercial use of the oil and the oil presscake was investigated.

A fruit with a vitamin C content equally high as that of the marula but little known due to its restricted occurrence in Northern Natal and Southern Mozambique, is that of the tree *inhambanella henriquesii*. The bright red fruit is oval-shaped, about 4 cm long and 3 cm wide. A tough skin covers a layer of soft flesh, sweet, but somewhat sour near the large stone.

The baobab tree *Adansonia digitata* is very slow growing and an age of 1 000 years is not uncommon. These odd-shaped trees with their thick trunks bear large fruits with an edible whitish pulp and edible pea-sized seeds with a hard shell. The pulp has a low moisture content (9%) and is either made into a porridge or a drink is prepared from it. The latter has a refreshing, slightly sour taste (due to tartaric acid). The pulp contains 200 mg vitamin C and 335 mg Ca whereas the nut is a good source of oil, protein, minerals and B vitamins.

The leaves are also edible and are cooked as a potherb or spinach. A very valuable tree indeed!

The tsama melon *Citrullus lanatus* is one of the most important and valuable plants in the Kalahari. It provides food and water for man and animals in these sandy, semi-arid regions. The flesh contains 94% water, has a rather insipid taste and, due to its high water content, it is not a good source of any particular nutrient. The mashed flesh, though, is often the only source of water. The seeds can be roasted and eaten as such or ground and made into a porridge. They provide 18% protein, 20% oil and are a good source of minerals and B vitamins.

Fortunately this plant is a prolific bearer and as many as 34 fruits have been counted on one plant.

The nara, *Acanthosicyos horrida*, belonging to the same family as the tsama, is found in the Namib Desert in Namibia only. Here it plays an important role as a source of food and water for man and animal. The spiny fruit can wight more than a kilogram. The Topnaar Hottentots prepare a soup and a porridge in the following way: The fruits are cut in half, the flesh cut out and put into a container without water. It is then cooked for about 4 h until it is liquefied. The seeds are strained from the 'soup' and the latter is mixed with mealie meal porridge, making a pleasant-tasting sweet dish.

The seeds are more important and known as 'butter pits': they are eaten as a snack, raw or roasted, or used in confectionery. They are exported to Cape Town, for instance. These nutritious seeds which have a good taste, contain 31% protein and 57% oil. The latter has a high linoleic acid content of 53%. The Mg and P contents are high - a 100 g portion of the seeds can supply the daily recommened dietary allowance of these two minerals for an adult.

Another cucurbit which is often eaten in the semi-arid regions is the fruit of *Acanthosicyos naudiniana* or the 'gemsbokkomkommer'. As the common name denotes, it is a great favourite with gemsbuck. The off-white coloured fruit, the size of a large orange, is a good source of water and vitamin C. It is seldom eaten raw and is usually roasted. The roasted seeds are also eaten and the oil contains almost 60% linoleic acid.

The gums of a number of *Acacia* species are edible and can be good sources of minerals and carbohydrates. The gum of *Acacia erioloba* (camelthorn tree) has a high protein content (43%).

A very important plant in Botswana, North-Western Transvaal, North-Eastern Namibia and Northern Cape is *Tylosema esculentum*, the marama or 'gemsbokboontjie'. Again a favourite food of the gemsbuck.

A characteristic of the plant is the perennial tuber which can eventually grow to an enormous size. In Botswana a tuber with a mass of 277 kg was dug out some years ago. Each year in early summer new runners appear on which the pods are borne, having an average of two, but sometimes up to six seeds per pod.

The young tubers, not more than 2 years old, can be eaten boiled or roasted but older tubers are too fibrous. They are a good source of water (83%) but low in nutrient content. The seed is the important food item and when eventually, if ever, cultivated, it should be for the seed and not the tubers. The seeds with their dark brown hard, but fairly brittle shell, can be stored for years, making it an excellent emergency food in the semi-arid areas where these plants grow. The seeds are never eaten raw, being then rather tasteless and a bit slimy when chewed, but always roasted. This should be done carefully as over-roasting tends to bring out a bitter taste. The taste is quite agreeable with a slight coffee-like flavour.

The nut contains 33% protein and 38% oil which consists mainly of oleic acid, 55%, and 1% linoleic acid. It is a good supplement to the daily requirement of minerals and B vitamins.

In 1977 this Institute was asked for photographs and information on this plant by the National Academy of Sciences in the U.S.A. This information, together with that gained form a publication of this Institute in 1969, was published in the book 'Tropical Legumes: Resources for the future'. In this book this Institute was also mentioned as a research contact and requests for more information and seeds were received from all over the world. Active research on this plant is now done in Texas, U.S.A. and Israel.

In 1924 in an article published in the Journal of the Department of Agriculture, the author intimated that attempts should perhaps be made to cultivars this plant.

The seed and tubers of *Tylosema fassoglense* are also important foods as are the tubers of *Vigna lobatifolia* which provide about the same amount of vitamin C as potatoes.

The fungus *Terfezia pfeilii*, also known as the Kalahari truffle, occurs in Botswana, Northern Cape and eastern parts of Namibia. In these areas it is a popular item in die diet. Although low in vitamin C it is a useful source of B vitamins and protein. In size it resembles the potato and tasty dishes can be prepared from it - the taste resembling that of mushrooms.

The protein is somewhat unusual in that it contains the aminosugar glucosamine (0,41%). The oil content is low and it contains 67% linoleic acid.

In Namaqualand a number of edible bulb species are found such as *Pelargonium, Spiloxene, Bibiana* and *Moraea*. Generally they are a good source of vitamin C and some minerals.

The 'hotnotskool', *Trachyandra falcata*, is a popular wild vegetable which is as high in vitamin C as the cabbage.

The fruits of 'suurvytjies' and 'hotnotsvytjies', *Carpobrotus* species, are well known in the Western and Southern Cape. They are eaten fresh or dried and delicious-tasting jams can be made from them.

The leaves of 'surings' such as *Oxalis pes-caprae* are sometimes used in salads but one should perhaps be careful as they contain oxalic acid.

The bulbs of the oxalis species taste good and some are good sources of vitamin C.

The bulb of the 'raaptol', *Cyanella hyacinthoides*, is still a popular item it the diet in some regions of Namaqualand. It provides useful amounts of vitamin C, thiamin and protein.

Perhaps the eating of the underground parts of wild plants, and thus destroying the whole plant, should be discouraged. Especially those which are not easily propagated.

Finally, a rather unusual plant of the Western Cape and Namaqualand should be mentioned here. The numbers of these plants have decreased alarmingly in some regions due to various reasons. This plant is the kukumakranka of *Gethyllis* genus numbering 22 species. Both the flowers and fruits of these plants are famous for the extremely fragrant smell - especially the flowers.

In summer the perennial bulb produces one flower out of which develops one fruit. The intensity of the smell of the fruits varies from species to species. The fruit looks like a finger or pouch protruding from the ground. It contains numerous small seeds embedded in a jelly-like mass having a pleasant taste. The tip of the pouch is bitten off and the contents sucked out. The latter is a fair source of B vitamins and its vitamin C content rivals that of the orange. The size of the fruits vary from the size of a little finger on some species to roughly 8 cm long and about 2 cm diameter on the species with the largest fruits - the sandman or *Gethyllis ciliaris* which grows in Namaqualand.

Only a few of the more important foods are briefly discussed here. It should, however, be noted that the initial aim of this work was to gain more knowledge about the nutrient content only of edible wild plants which constitute an item in the diet of our indigenous people. The aim was not to look at the cultivation and commercial possibilities.

This Institute did initiate research on the manufacture of marula juice which as now become commercially available. The University of Pretoria is doing research on the ennoblement of the marula tree.

There are other edible wild plants which have commercial possibilities. At present the *Amaranthus* sp. is being looked at in America for human and animal food - the same should be done in South Africa. In both America and Israel they are doing research on the marama. Yet no research on this plant is being done here. What is the bitter substance in the roasted seed?

The wild cucumber *Cucumis metuliferus* is now cultivated in New Zealand and exported. Perhaps in the near future attempts will be made to cultivate it here as well. The fruit lasts for months before going bad - this property should be investigated.

Conditions in the RSA are not really suitable for growing the manetti, but Botswana and Namibia have suitable areas for its cultivation. The fruit is a valuable source of oil and food.

The marula kernel deserves further research on ways of extracting the nut from the hard and fibrous shell and making more use of it as a source of oil and food.

There are about 1 400 edible plant species in Southern Africa and nutrient data has been obtained on about one fifth only.

There are a number of edible seeds on which amino acid data should be obtained, or which should be biologically evaluated for protein quality.

The edible parts of these plants could be screened for bacteriostatic properties as suggested by Dr. J.P. van der Walt of this Institute.

A concerted effort in conjunction with the Department of Agriculture should be made to look at some of the plants as a source of food for our future needs.

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Scientia
Pretoria
86.08.18

ABBREVIATIONS : ws = whole seed; s = seed without testa; wf = whole fruit; ff = fruit flesh; fs = fruit flesh and skin; t = tuber (peeled); c = corm (peeled); b = bulb (peeled); r = root (peeled); l = leaves; tw = twigs; dash (-) = item has not been determined

PLANT	g/100 g						kj/ 100 g	mg/100 g												
	Mois-ture	Ash	Pro-tein	Fat	Crude fibre	Carbo -hydr-ate	Energy value	Ca	Mg	Fe	Na	K	Cu	Zn	Mn	P	Thia-min	Ribo-flavin	Nico-tinic acid	Vit. C	Caro-tene
AMARANTHACEAE																					
Aerva leucura (l)	83.0	1.8	2.4	0.3	1.7	10.8	233	248	170	10.3	2.14	168	0.29	0.94	-	21.2	-	-	-	-	-
Amaranthus caudatus (l)	6.0	25.8	28.8	0.3	7.0	32.1	1034	3348	1589	23.2	-	4250	1.6	5.50	-	248	-	0.60	5.86	5.6	-
A gracilis (l)	5.4	33.2	31.2	1.0	8.8	20.4	905	2350	1506	82.5	125	5750	2.25	6.00	-	576	-	0.63	7.53	3.4	-
A. graeczans (l)	6.3	28.1	26.1	0.9	13.0	25.6	903	1850	1450	9.8	125	4250	1.3	5.00	-	487	-	0.40	4.36	13.8	-
A. hybridus var. hybridus (l)	84.9	2.0	3.5	0.3	1.5	6.9	186	306	182	6.0	3.62	760	0.23	0.63	-	64.2	0.01	0.15	1.00	126	-
A. hybridus var. erythrostachys (l)	84.9	4.1	3.4	0.2	2.4	5.0	149	334	122	10.8	5.1	353	0.22	0.60	-	38.3	tr	0.03	0.45	-	-
A. spinosus (l)	84.9	6.1	5.0	0.2	1.3	3.5	150	479	265	14.4	-	679	0.36	0.32	-	71.8	-	0.10	0.97	-	-
A. thunbergii (l)	84.9	4.7	4.0	0.2	2.6	3.7	135	288	124	12.5	13.3	351	0.26	0.72	-	62.1	0.07	0.05	0.56	-	-
AMARYLLIDACEAE																					
Gethyllis ciliaris (ff)	86.4	0.7	2.7	0.3	0.9	9.0	208	7.16	19.7	0.61	15.4	279	0.17	0.51	-	55.9	0.18	0.12	1.44	52.4	-
Nerine laticoma (b)	77.2	1.1	1.0	0.1	3.1	17.5	316	169	21.3	1.19	1.47	62	0.17	0.29	-	17.8	0.16	0.03	0.3	15.5	-
ANACARDIACEAE																					
Harpephylum caffrum (ff)	87.5	0.8	0.7	0.2	1.7	9.1	172	47.0	23.7	0.60	5.73	254	0.14	0.14	-	13.3	0.12	-	-	70.7	-
Lannea discolor (ff)	81.3	1.1	2.2	0.9	4.2	10.3	244	54.7	31.6	1.22	10.7	266	0.20	0.94	-	51.9	0.03	0.03	0.54	25.4	-
L. schweinfurthii (ff)	81.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26.0	-
Ozoroa dispar (ff)	76.6	1.7	2.5	2.0	2.8	14.4	360	158	60.8	1.06	8.2	493	0.62	0.69	0.78	49.9	0.08	0.01	1.38	8.4	-
Rhus lancea (l)	86.4	1.1	1.8	0.3	1.7	8.7	187	149	44.4	0.10	4.60	148	0.12	0.22	-	42.4	-	0.09	0.26	108	-
R. macowanii (ff)	84.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.0	-
Rhus undulata (berries whole)	13.3	2.6	5.0	4.7	19.4	55.0	1187	189	56.9	3.48	43.9	939	3.71	2.90	1.67	116	0.13	0.02	2.60	6.4	
R. undulata (whole berries with milk)	65.1	1.2	2.7	2.9	6.8	21.3	513	91.8	25.4	1.41	26.2	297	0.99	1.17	0.56	84.2	0.07	0.10	0.60	2.3	
R. viminalis (berries - whole)	7.6	5.0	7.1	1.3	17.5	61.5	1202	549	200	0.20	44.0	701	-	1.81	1.38		0.06	0.01	1.54	-	
Sclerocarya birrea (ff)	85.0	0.9	0.5	0.4	1.2	12.0	225	20.1	25.3	0.50	2.24	317	0.07	0.10	-		0.03	0.02	0.27	194	
S. birrea (nut)	4.0	3.8	28.3	57.3	2.9	3.7	2703	118	462	4.87	3.81	601	2.81	5.19	-		0.42	0.12	0.72	-	
S. birrea (beer)	97.3	0.1	0.2	-	-	2.4		4.10	0.65	0.66	5.19	45.2	0.06	0.19	-	0.77	-	-	-	49.0	

ANNONACEAE																				
Annona senegalensis (ff)	77.2	1.2	1.7	1.5	3.9	14.5	329	41.6	83.8	0.74	1.31	465	0.21	0.26	-	175	-	0.14	0.82	18.1	
Artabotrys brachypetalus (ff)	82.3	0.8	0.5	0.8	5.2	10.4	213	22.0	28.4	0,67	3.53	250	0,27	0,27	-	65,1	-	-	-	12.6	
APIACEAE																				
Annesorrhiza capensis (l)	77.2	1.1	0.3	0.2	1.7	19.5	340	100	16.9	1.91	8.90	257	0.40	1.24	0.18	77,3	0.05	0.006	2.54	13.1	
Centella asiatica (l)	81.5	3.3	3.2	1.3	2.4	8.3	242	213	115	13.1	-	338	0.37	2.04	-	34	0.05	0.21	0.75	23.0	4.40
Chamarea capensis (l)	79.6	0.8	1.0	0.1	0.6	17.9	321	56.3	24.3	1.33	24.6	204	0.13	0.24	0.12	33.9	0.02	0.01	1.1	23.2	
APOCYNACEAE																				
Carissa bispinosa (ff)	81.6	0.7	0.7	1.2	1.8	14.0	292	20.6	19.8	0.81	10.3	261	0.23	0.43	-	25.9	0.05	0.08	0.32	10.6	
Carissa haematocarpa (ff)	68.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18.4	
Carissa macrocarpa (wf)	79.7	0.7	0.5	1.1	1.6	16.4	326	22.6	19.5	0.56	1.58	298	0.21	-	-	26.2	0.08	0.08	0.31	52.4	
Landolphia capensis (ff)	78.7	0.4	0.8	0.4	1.3	18.4	338	6.75	20.7	0.7	1.00	138	0.55	0.38	-	9.9	0.02	0.03	1.14	112	
L. kirkii (ff)	76.2	0.5	0.6	0.6	0.5	21.6	396	2.38	9.0	0.56	6.3	193	0.10	0.11	0.14	11.0	0.04	0.02	0.66	10.3	
L. petersiana (ff)	81.3	0.7	0.6	0.2	0.7	16.5	295	18.3	12.2	1.00	7.94	236	0.27	0.28	0.15	10.5	0.14	0.04	0.75	26.6	
ARACEAE																				
Colocasia antiquorum (c)	75.6	1.0	1.2	0.3	0.6	21.3	389	21.7	24.8	1.46	6.4	369	0.36	0.71	-	52.0	0.12	0.03	0.69	4.4	
C. antiquorum (l)	85.6	2.3	3.8	0.8	2.0	5.5	186	327	48.8	3.02	68.0	315	0.25	0.66	-	53.0	0.03	0.10	1.05	60.3	
ARECACEAE																				
Hyphaene natalensis (beer)	98.4	0.4	0.1	-	-	1.1	129	2.03	3.37	0.62	10.5	155	0.07	0.09	0.05	3.2	0.005	0.005	0.11	5.0	Alcohol 3.65%
H. ventricosa (ff)	6.6	9.0	4.9	0.4	9.6	69.5	1265	103	197	2.04	-	2560	0.47	0.56	-	156	-	0.10	4.62	19.7	0.06
Phoenix reclinata (ff)	36.1	3.9	3.2	0.7	9.8	46.3	858	50.6	79.2	182	67.0	1329	0.33	0.76	0.81	33.0	0.03	0.02	1.16	-	-
P. reclinata (beer)	98.3	0.4	0.2	-	-	1.1	131	0.45	5.12	0.07	5.85	157	0.05	0.02	-	1.74	0.01	0.01	0.50	6.5	Alcohol 3.6%
ASCLEPIADACEAE																				
Brachysteima sp. (l)	93.0	0.6	0.5	0.1	0.6	5.2	100	20.6	20.1	0.40	1.52	84.6	0.18	0.28	-	4.70	0.04	0.02	0.19	18.3	
Brachystelma circinatum (t)	93.7	1.3	0.4	0.1	0.6	3.9	76	110	29.7	0.86	3.70	340	0.27	0.86	-	6.40	0.01	0.01	0.21	7.3	
Caralluma mammillaris (succulent stem)	88.4	1.3	0.7	0.2	1.6	7.8	150	167	63.8	1.42	112	174	0.38	0.44	1.36	19.1	0.10	0.04	1.85	31.8	
Ceropegia multiflora (l)	91.2	1.2	1.0	0.09	0.5	6.0	120	99.2	38.4	0.98	2.76	271	0.10	0.26	-	8.7	0.10	-	0.26	4.8	
C. stenantha (l)	93.0	1.6	1.0	0.1	0.3	4.0	88	102	29.6	-	16.8	302	0.34	0.62	-	10.1	-	-	-	-	

ASCLEPIADACEAE (cont) Ceropegia sp (t)	92.8	0.6	0.5	0.1	0.7	5.3	101	45.6	38.4	0.29	0.05	126	0.07	0.22	-	16.5	-	-	-	3.8	
Cynanchum zeyheri (pods)	83.7	1.7	1.9	1.3	5.1	6.3	187	45.9	43.9	0.74	29.2	488	0.25	0.56	-	27.9	0.17	0.08	0.53	398	
Fockes angustifolia (t)	91.3	1.4	0.5	0.2	1.4	5.2	103	52.0	29.5	0.64	6.83	257	0.15	0.21	0.15	8.35	0.03	0.01	0.10	3.8	
Huernia namaquensis (succulent stem)	93.9	0.8	0.3	0.2	0.7	4.1	81	73.9	60.5	1.10	39.4	139	0.17	0.31	1.57	13.8	-	-	-	25.7	
Microloma saggitatum (pods)	74.3	2.0	4.3	0.5	3.3	15.6	353	127	75.4	2.27	11.1	649	0.46	1.07	1.24	102	0.26	0.18	0.89	102	
Orbea namaquensis (pods)	87.4	0.8	1.3	0.5	3.3	6.7	153	21.5	25.2	0.78	22.4	318	0.21	0.33	0.50	58.5	0.14	0.04	0.55	116	
O. namaquensis (succulent stem)	94.7	0.6	0.6	0.1	0.4	3.6	74	35.6	26.0	1.11	31.5	167	0.16	0.18	0.44	22.5	0.06	0.01	0.52	35.3	
Pentarrhinum insipidum (l)	85.0	2.2	3.5	0.5	2.0	6.7	192	370	78.7	8.75	3.82	142	0.43	0.39	-	62.5	0.21	0.26	1.06	-	-
P. insipidum (wf)	88.1	1.3	2.3	0.2	1.5	6.6	157	71.8	78.2	0.79	6.3	323	0.64	0.15	-	46.6	-	-	-	-	-
Schizoglossum capense (t)	59.9	2.0	2.5	0.5	3.1	32.0	599	153	91.5	2.84	64.5	345	0.51	0.29	-	14.6	-	0.05	2.59	14.0	
Stapelia gettleffil (succulent stem)	93.6	1.3	0.7	0.3	0.9	3.2	79	58.0	71.9	2.4	2.27	369	0.18	0.48	-	15.5	-	-	-	30.1	
Tenaris schultzel (t)	92.6	0.8	0.3	0.1	0.5	5.7	105	-	-	-	-	-	-	-	-	-	-	-	-	-	
Trichocaulon alstonii (succulent stem)	94.2	0.7	0.2	0.02	0.8	4.1	73	167	13.7	0.24	42.6	49.5	0.26	0.28	0.22	4.6	-	-	-	7.4	
T. officinale (succulent stem)	91.1	1.5	0.8	0.2	1.1	5.3	110	144	61.1	3.07	16.5	254	1.55	0.48	-	8.9	0.08	0.02	0.50	29.6	
ASTERACEAE Artemisia afra (l)	7.3	7.9	9.4	2.6	18.8	54.2	1009	1167	127	46.3	5.75	1614	7.96	8.26	6.47	107	0.35	0.77	4.10	-	-
Bidens pilosa (l)	84.8	2.6	3.4	0.4	1.7	7.1	192	175	135	6.01	7.36	462	0.58	0.91	-	68.1	0.08	0.18	0.71	22.9	5.9
Conyza bonariensis (l)	79.4	3.5	3.2	0.2	3.3	10.4	236	347	109	16.4	102	704	0.72	2.65	-	47.0	0.08	0.21	1.0	17.0	5.6
Galinsoga parviflora (l)	88.4	1.7	3.2	0.4	1.1	5.2	156	284	59.7	5.30	2.30	351	0.33	1.32	-	58.0	0.08	0.21	1.21	12.0	4.60
Helichrysum nudifolium var. quinqenerve (l)	8.7	10.9	7.8	3.5	25.4	43.7	998	623	257	49.9	-	1218	2.40	2.59	-	125	-	-	-	-	-
H. zeyheri (l)	6.2	2.8	4.8	2.8	41.3	42.1	894	295	118	14.1	5.62	644	9.53	7.17	14.9	63.7	0.20	0.29	3.23	-	-
Sonchus asper (l)	87.7	3.2	2.3	0.5	1.6	4.7	137	198	57.1	14.9	98.0	363	0.39	0.80	-	31.6	0.04	0.13	0.51	-	-
S. oleraceus	89.9	3.0	2.2	0.5	1.5	2.9	106	193	50.7	7.10	69.5	371	0.25	0.90	-	40.6	0.03	0.11	0.38	25.0	-
S. wilmsii	89.2	1.6	2.8	0.4	1.1	4.9	144	188	90.4	1.40	5.30	500	0.67	0.19	-	73.2	-	-	-	33.7	-

BOMBACACEAE																				
Adansonia digitata (ff)	8.7	5.8	2.7	0.2	8.9	73.7	1292	335	167	2.65	11.2	2409	0.37	1.00	-	76.2	0.62	0.14	2.73	209	
A. digitata (nut)	8.1	5.9	33,7	30.6	16,9	4,8	1803	273	640	6,55	2,48	1275	2,78	6,68	-	512	0,25	0,14	1.0	-	
BORAGINACEAE																				
Ehretia rigida (ff)	85.6	1.3	1,7	0.3	0,7	10.4	215	30,5	27,8	0.89	2,50	547	0,17	0,22	-	-	-	-	-	6,9	
BRASSICACEAE																				
Raphanus raphanistrum (l)	87,4	3.1	3,7	0,3	1,4	4,1	142	285	98,9	9,51	6,80	530	0,18	1,36	-	54,6	0,07	0,14	0,62	11.0	1.80
Rorippa nudiuscula (l)	82.4	3.2	4,9	0,3	3.0	6.2	197	366	53,5	12,5	4,60	369	0.21	1.03	-	51.0	0,10	0.23	2.04	-	
Sisymbrium thellungii (l)	79.0	7,1	5.1	0.3	3.0	5,5	188	654	107	27,1	16,6	904	0,40	0,99	-	97,3	0.05	0,38	1.52	-	
BUSERACEAE																				
Commiphora angolensis (r)	75,5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,5	
C. pyracanthoides (r)	81.0	2.6	-	-	-	-	-	285	53,0	0.80	7,50	635	0.20	0,40	-	49,9	-	-	-	-	
CACTACEAE																				
Opuntia ficus-indica (ff)	88,4	0.4	0,7	0.1	0.2	10.2	187	32.0	23.2	0.14	0.27	129	0.03	0.14	-	13.8	0.01	0.02	0.21	16,1	
CAPPARACEAE																				
Boscia albitrunca (r)	68,1	1.8	6,5	0.2	3,6	19,8	449	63,6	75,8	0.38	37.2	504	0.08	0.78	-	14.4	0.02	0.03	0.24	6.6	
Cleome gynandra (l)	85,0	3,2	4.6	0,9	2.5	3,8	175	189	75,9	2,64	19,3	478	0.42	0,76	-	12,0	0,10	0,12	1,29	-	
CARYOPHYLLACEAE																				
Stellaria media (l)	89.1	1.8	2,5	0,4	1.6	4.6	134	119	86,1	8,4	142	275	0.36	1.21	-	56.0	0.03	-	0,51	1.3	
CELASTRACEAE																				
Cassine aethiopica (ff)	75,4	1.1	0.8	0.3	3,5	18.9	342	-	-	-	-	-	-	-	-	-	-	-	-	-	
C. matabelicum (ff)	73.4	0.9	1.4	0.7	6.0	17.6	346	94,2	41,5	0.54	-	91.4	-	0.36	-	15.9	0,05	0.01	0.30	37,7	
C. papillosa (ff)	64.7	3.6	0.9	0.4	3.2	27.2	487	-	85,7	3.50	-										
C. peragua (ff)	85.7	1.1	1.1	0.8	2.0	9,3	205	66,3	48.6	0.99	45.5	250	0.29	0.16	-	22.4	0.01	0.07	0.88	-	
Maytenus undata (ff)	60.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.6	
Salacia kraussii (ff)	83.8	0.6	1.1	0.3	0.7	13,5	256	15,0	25,5	0.62	8,89	203	0,39	0,17	-	18,5	0.01	0,08	0.81	10.7	μ0, 0006 β0, 0039

CHENIPODIACEA																				
Chenopodium album (l)	85.0	4.4	4.4	0.3	1.6	4.3	158	226	155	6.09	13.3	601	0.40	1.36	-	60.8	0.03	0.31	0.58	31.4	5.49
C. foliosum	82.8	3.2	3.0	0.3	3.4	7.3	184	84.5	131	14.5	19.4	853	0.24	0.90	-	71.5	0.03	0.09	0.29	-	-
C. murale	81.8	5.4	4.8	0.4	2.4	5.2	182	151	218	9.3	124	488	0.38	1.80	-	88.2	0.03	0.16	0.49	-	-
CHRYSOBALANACEAE																				
Parinari capensis (nut)	1.9	2.3	26.3	65.1	2.6	1.0	2919	59.3	400	4.73	6.08	470	1.56	3.73	-	411	0.71	0.19	3.79	-	-
R. curatellifolia (ff)	64.6	1.5	1.6	0.5	2.9	28.9	533	103	46.0	0.86	4.63	411	0.51	0.41	-	26.6	0.04	0.07	1.28	70.9	-
P. curatellifolia (nut)	2.6	2.7	28.7	58.0	4.3	3.7	2737	182	416	5.54	4.39	470	1.95	3.06	-	466	0.68	0.20	-	-	-
CLUSIACEAE																				
Garcinia livingstonei (ff)	83.9	0.4	0.8	0.3	0.7	13.9	258	4.79	12.1	0.28	6.92	134	0.07	0.19	-	20.3	-	0.05	0.40	5.4	-
COMBRETACEAE																				
Combretum imberbe (gum)	11.4	5.1	1.3	0.4	2.4	79.4	1371	1176	165	3.94	9.73	547	1.56	0.54	-	100	-	-	-	-	-
Terminalia sericea (gum)	8.9	1.6	3.3	0.2	0.1	85.9	1506	336	35.3	1.12	1.18	279	0.16	0.29	-	3.4	-	-	-	-	
Curtisia dentata (ff)	74.4	1.7	4.0	0.5	4.7	14.7	333	115	52.0	3.30	10.1	449	0.87	0.45	-	13.4	0.04	0.02	0.29	11.4	-
CONVOLVULACEAE																				
Ipomoea obscura (l)	56.6	3.9	8.8	1.4	7.4	21.9	569	528	257	28.8	2.99	991	0.92	1.06	-	65.0	-	-	2.18	-	
I. welwitschii (t)	85.9	1.0	0.5	0.6	1.4	10.6	209	111	65.6	0.26	0.81	224	0.10	0.11	-	10.4	0.03	0.02	0.08	2.9	
CUCURBITEAE																				
Acanthosicyos horrida (ff)	84.0	1.6	1.4	0.3	1.0	11.7	231	21.4	19.0	0.50	14.1	654	0.30	0.60	-	22.4	0.01	0.02	0.75	-	0.12
A. horrida (s)	5.3	3.4	30.7	57.0	1.3	2.3	2709	100	363	4.00	3.00	400	3.90	5.50	-	811	-	-	2.17	-	
A. naudinianus (ff)	90.6	1.0	1.3	0.2	2.1	4.8	111	21.2	23.6	0.52	1.53	270	0.12	0.24	-	25.1	0.09	0.03	0.98	34.9	-
Citrullus lanatus (ff)	94.2	1.1	0.4	0.04	1.2	3.1	60	31.6	16.0	0.30	2.10	267	0.27	0.09	-	5.10	0.06	0.01	0.34	9.2	0.45
C. lanatus (s)	5.7	1.9	17.9	20.2	41.8	12.5	1274	54.0	209	6.55	5.67	433	1.14	3.40	-	474	0.59	0.27	2.45	-	-
Coccinia adoensis (r)	81.7	0.6	1.1	0.1	0.6	15.9	289	43.5	29.7	0.36	0.67	420	0.06	0.40	-	38.8	0.05	0.02	0.77	1.3	-
C. adoensis (ff)	91.7	0.8	1.8	1.0	2.1	2.6	112	28.4	28.1	0.61	0.52	269	0.11	0.17	-	4.10	-	-	-	19.2	-
C. quinqueloba (ff)	90.3	0.8	1.8	1.3	1.9	3.9	145	21.0	20.8	0.21	2.48	259	0.18	0.15	-	36.2	-	-	-	9.0	

C. rehmannii (ff)	89.1	1.0	2.0	1.0	2.2	4.7	150	66.8	30.6	0.49	3.77	292	0.12	0.46	-	35.8	0.05	0.04	0.79	3.5	0.69	
C. rehmannii (r)	89.1	1.5	1.5	0.2	1.2	6.5	142	201	37.2	0.48	10.3	192	0.22	0.92	-	35.2	0.02	0.03	0.44	4.1	-	
C. sessilifolia (ff)	87.1	1.2	2.4	0.3	1.7	16.8	167	43.9	28.1	1.05	3.14	45.0	0.17	0.62	-	32.2	0.05	0.01	0.46	10.7	0.22	
C. sessilifolia (r)	84.2	2.0	2.2	0.1	1.9	9.6	205	343	71.9	0.69	6.75	226	0.17	0.80	-	38.1	0.04	0.02	0.49	8.3	-	
Corallocarpus bainesii (ff)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23.6	-	
C. welwitschii (r)	77.6	1.4	2.7	0.2	3.1	15.0	305	196	95.3	1.30	6.7	362	0.15	0.59	-	71.9	-	-	-	2.1	-	
Cucumis africanus (l)	92.2	1.6	1.3	0.3	1.2	3.4	90	216	175	12.1	11.3	109	0.17	0.31	-	11.1	0.02	0.11	0.34	80.5	-	
C. africanus (ff)	88.2	1.2	2.8	1.6	2.9	3.3	163	13.1	29.2	1.10	1.10	439	0.22	0.37	-	20.2	0.20	0.03	0.84	12.8	-	
C. kalahariensis	88.7	0.7	1.1	0.1	0.6	8.8	170	28.3	23.4	0.95	1.30	184	0.11	0.32	-	14.2	0.07	0.02	0.50	5.4	-	
C. metuliferus (ff)	91.0	0.9	1.1	0.7	1.1	5.2	134	11.9	22.3	0.53	2.08	319	0.11	0.25	-	25.5	0.04	0.02	0.55	18.6	-	
Kedrostis africana (r)	83.9	0.3	3.0	0.1	2.5	10.2	226	-	-	-	-	-	-	-	-	-	0.02	0.03	1.63	-	-	
K. hirtella (r)	77.9	1.7	3.3	0.1	1.4	15.6	321	122	54.9	1.10	4.94	384	0.06	0.59	-	57.1	0.06	0.02	1.15	4.5	-	
K. hirtella (ff)	92.2	0.8	1.5	0.3	1.1	4.1	105	2.1	18.0	0.6	2.50	286	0.05	0.20	-	30.2	0.04	0.05	0.85	-	0.14	
K. nana (r)	94.0	1.3	0.2	0.1	0.9	3.5	65	118	68.9	0.60	12.7	248	0.04	0.12	0.46	9.65	0.01	-	0.08	-	-	
Lagenaria siceraria (ff)	87.8	0.9	1.2	0.1	0.7	9.3	180	10.2	18.5	0.79	1.40	304	0.19	0.45	-	31.8	0.02	0.05	0.64	22.0	-	
Momordica balsamina (ff)	89.4	1.6	2.0	0.1	1.8	5.1	123	35.9	41.2	2.61	3.25	533	0.20	1.00	-	35.8	0.04	0.06	0.55	0.5	-	
M. boloamina (l)	75.4	4.9	6.4	0.2	3.9	9.2	271	271	159	16.3	15.2	839	0.50	1.59	-	78.2	0.01	0.21	1.62	3.6	-	
M. involucrata (l)	77.8	4.2	-	-	-	-	-	685	257	9.1	181	726	1.6	1.03	-	10.3	-	-	-	-	-	
Telfairia pedata (s)	2.8	2.8	22.9	61.6	3.5	6.4	2821	21.0	268	6.25	11.0	609	1.85	1.6	-	705	0.10	0.12	1.85	-	-	
CYPERACEAE																						
Cyperus esculentus (b)	77.4	1.3	0.9	0.1	1.1	19.2	342	236	75.5	4.20	27.7	218	0.28	0.61	1.57	32.4	0.02	-	0.23	21.0	-	
C. fulgens (b)	64.6	1.1	1.4	0.2	0.7	32.0	569	16.4	26.6	0.66	2.99	421	0.21	0.61	-	34.7	0.06	0.05	0.42	7.5	-	
C. rotundus (b)	60.0	1.1	5.1	0.3	1.6	31.9	633	31.3	57.9	-	7.0	273	0.5	1.29	-	133	0.15	0.06	-	4.2	-	
Mariscus indecorus (b)	62.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
DIOSCOREACEAE																						
Dioscorea bulbifera (ff)	68.9	1.3	3.3	0.4	1.0	25.1	493	15.5	32.8	1.25	2.93	547	0.26	0.42	-	77.3	0.13	0.01	0.28	7.7	-	
D. dumetorum (t)	65.3	1.7	0.5	0.1	1.0	31.4	540	18.6	48.9	3.40	3.70	241	0.52	0.62	-	89.8	0.07	0.05	-	-	-	
D. elephantipes (t)	92.7	0.9	0.3	0.1	0.7	5.3	98	242	46.4	0.44	2.10	133	0.06	0.17	0.32	3.00	0.02	0.0002	0.06	2.9	-	
EBENACEAE																						
Diospyros chamaethamnus (ff)	60.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
D. dichrophylla (ff)	68.2	1.5	1.3	0.2	1.1	27.7	495	22.1	39.5	1.29	52.0	276	0.13	0.27	-	18.0	0.06	0.04	0.26	36.3	-	
D. lycioides (ff)	78.0	1.0	0.9	0.1	3.5	16.5	296	66.8	39.7	1.04	16.3	271	0.23	0.30	-	13.7	0.11	0.09	0.17	45.2	-	

D. mespiliformis (ff)	69.0	1.3	1.1	0.4	6.2	22.0	404	96.0	23.4	1.03	13.7	417	0.11	0.21	-	27.8	0.01	0.04	0.24	24.6	-
D. natalensis (ff)	56.5	2.0	1.7	0.6	12.1	27.1	507	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D. ramulosa (ff)	76.7	0.7	0.8	0.2	1.7	19.9	355	38.4	13.0	0.63	11.3	252	0.12	0.81	0.28	13.2	0.01	0.01	0.22	162	-
D. scabrida (ff)	62.0	1.2	1.8	0.2	4.2	30.6	552	162	24.7	2.89	14.8	496	0.44	0.56	-	-	-	-	-	97.4	-
Euclea crispa (ff)	81.2	1.0	-	-	-	-	-	203	75.9	2.07	3.51	92.9	0.21	0.24	-	68.0	-	-	-	-	-
D. divinorum (ff)	8.0	4.7	3.5	1.7	22.3	59.8	1128	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E. natalensis (ff)	-71.3	1.0	0.6	0.2	0.6	26.3	459	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E. pseudebenus (ff)	68.5	1.3	1.6	0.1	0.7	27.8	498	43.5	28.8	0.28	2.51	358	0.11	0.36	0.12	25.4	0.02	0.003	0.31	0.31	-
E. tomentosa (ff)	65.3	1.3	1.4	0.3	4.3	27.4	496	71.0	22.7	1.06	21.7	387	0.19	0.23	0.49	30.4	0.01	0.02	0.35	14.4	-
EUPHORBIACEAE Antidesma venosum (ff)	93.7	1.1	0.4	0.1	0.9	3.8	74	28.0	22.5	0.86	3.70	219	0.29	0.20	-	10	-	-	0.25	2.0	-
Bridelia micrantha (ff)	81.1	0.4	0.9	0.1	1.9	15.6	281	32.2	31.9	0.88	6.28	134	0.17	0.31	-	18.8	0.01	0.003	-	5.4	-
Euphorbia brachiata (tips of stems)	82.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jatropha erythropoda (t)	86.7	0.9	1.1	0.2	1.8	9.3	183	102	30.4	0.38	1.95	178	0.11	-	-	17.7	0.01	0.01	0.11	7.6	-
J. zeyheri (l)	7.0	10.0	5.7	2.8	17.5	57.0	1159	2265	538	31.4	6.05	913	3.25	5.27	57.4	54.4	0.15	0.25	6.50	-	-
Manihot utilissima (r)	92.6	0.7	0.3	0.1	0.8	5.5	101	27.9	6.9	0.14	2.82	276	0.02	0.16	-	7.4	0.02	0.01	0.28	8.8	-
Ricinodendron rautanenii (nut)	4.2	4.1	26.3	58.1	2.7	4.6	2715	223	493	3.42	3.35	674	2.53	3.54	-	869	0.26	0.22	0.27	-	-
R. rautanenii (ff)	8.6	5.2	7.8	0.5	2.9	75.0	1410	85.0	214	2.54	2.39	2145	1.30	1.68	-	74.3	0.42	0.13	1.78	27.0	-
Securinega virosa (ff)	81.7	0.7	1.2	0.7	2.6	13.1	267	44.0	24.1	1.25	1.35	115	0.29	0.28	-	19.5	0.04	0.05	0.41	10.8	-
Uapaca kirkiana (ff)	79.4	0.5	0.6	0.2	3.9	15.4	227	18.7	24.3	0.65	0.84	181	0.12	0.16	-	9.94	0.01	0.05	0.27	7.0	-
FABACEAE Acicia albida (s)	6.5	3.9	24.8	2.2	6.8	55.8	1437	252	276	6.81	18.3	1125	1.57	2.55	-	390	0.90	0.17	2.04	-	-
A. nilotica (gum)	11.2	2.1	1.0	1.2	0.8	83.7	1468	779	149	19.6	51.5	97.0	1.83	-	-	13.7	-	-	-	-	-
A. erioloba (s)	8.0	4.2	25.8	4.6	11.4	46.0	1380	385	275	4.88	5.85	1100	1.00	3.48	-	314	0.77	0.15	1.37	-	-
A. erioloba (gum)	11.5	2.7	43.0	0.3	4.3	38.2	1376	657	37.3	10.4	2.71	212	0.96	0.31	-	25.5	-	-	-	-	-
A. karroo (gum)	13.9	3.3	6.8	0.6	5.7	69.7	1308	963	111	16.6	36.0	183	1.01	0.27	0.32	33.3	0.02	0.01	0.04	-	-
Aspalathus linearis (l & tw)	8.0	2.1	6.3	0.5	40.2	42.9	845	145	8.38	243	391	0.27	0.61	-	57.5	0.24	0.65	1.34	-	-	-
Bauhinia peetersiana (green pods)	40.5	2.7	16.5	9.2	6.5	24.6	1038	125	177	0.50	29.0	756	0.3	-	-	273	0.27	0.10	1.41	29.7	-
Bauhinia petersiana (s)	6.8	4.1	22.9	13.1	12.9	40.2	1552	237	220	3.87	1.24	118	0.97	2.94	-	317	0.58	0.20	1.65	-	-
Cyclopia genistoides (l & tw)	9.3	1.9	6.5	1.2	30.3	50.8	1008	173	70.9	7.57	114	496	0.61	0.87	-	29.5	0.13	0.10	3.09	-	-
Dialium schlechteri (ff)	7.9	3.9	3.4	0.5	5.0	79.3	1408	51.6	75.7	4.27	40.5	1598	1.63	1.16	2.53	164	0.43	0.07	2.01	7.8	-
Elephantorrhiza elephantina (r)	77.7	1.2	0.9	0.2	3.0	17.0	208	89.4	42.2	3.70	3.00	348	.95	0.40	-	46.4	0.01	-	-	8.4	-

Guibourtia coleosperma (s)	9.1	1.9	14.3	8.0	4.4	62.3	1589	323	163	4.69	20.3	390	0.87	2.70	-	198	0.05	-	-	-	-
Lablab purpureus (s)	9.9	3.4	19.7	1.0	7.8	58.2	1346	67.1	76.7	6.00	2.50	1040	0.58	2.49	2.18	368	0.59	0.17	1.77	-	-
Pilliostigma thonningii (s)	9.9	3.4	22.7	2.7	7.9	53.4	1381	160	276	4.70	7.60	909	2.30	1.56	-	417	0.25	0.11	0.96	-	-
P. thonningii (pod without seed)	7.0	3.0	4.8	1.4	27.5	56.3	1079	162	97.9	6.80	7.35	1110	0.76	0.34	-	99.6	0.12	0.10	1.47	-	-
Schotia afra (s)	8.0	2.5	11.6	2.6	13.0	62.7	1340	168	119	15.6	.54	974	1.40	2.19	-	174	-	-	-	-	-
Tylosema esculentum (s)	3.7	3.0	32.9	37.8	2.1	20.5	2253	182	295	3.87	22.6	780	1.38	3.33	-	463	0.62	0.52	1.89	-	-
T. esculentrum (t)	90.5	0.6	0.6	0.1	1.6	6.6	125	52.1	32.8	0.30	4.08	121	0.10	0.23	-	8.48	0.03	0.004	0.06	2.5	-
T. fassoglense (green pods)	72.5	1.3	6.4	2.9	3.3	13.6	446	61.2	46.0	0.49	0.83	317	0.83	0.81	-	111	0.03	0.10	0.90	39	-
T. fassoglense (s)	9.2	3.5	22.0	14.2	18.2	32.9	1459	101	133	1.72	0.85	651	0.70	2.24	-	362	0.13	0.08	1.22	-	-
T. fassoglense (t)	79.4	2.7	1.6	0.5	4.4	11.4	237	54.2	18.3	0.26	2.2	183	0.40	0.50	-	13.7	0.04	0.005	0.02	6.5	-
Vigna lobatifolia (t)	79.6	1.1	2.1	0.2	1.6	15.4	302	39.3	65.7	0.82	5.27	363	0.16	0.46	-	16.3	0.06	0.05	0.94	11.6	0.033
Vigna subterranea (s)	7.3	3.6	18.4	6.9	4.3	59.5	1570	37.4	203	4.63	4.19	555	1.13	2.18	-	304	0.21	0.23	1.69	-	-
Xanthocercis zambesiaca (s)	9.0	2.3	11.2	16.3	5.9	55.3	1733	227	229	3.72	5.33	75	2.38	-	-	111	0.34	0.29	16.1	-	-
X. zambesiaca (ff)	13.1	2.4	2.9	1.2	5.7	74.7	1349	180	54.0	2.40	31.0	824	0.20	1.00	-	31.6	0.07	0.02	-	-	-
FLACOURTIACEAE																					
Dovyalis caffra (ff)	85.9	0.3	0.4	0.4	0.3	12.7	235	4.80	0.40	0.14	9.50	606	0.06	-	-	10.5	0.01	0.05	0.30	117	0.04
Dovyalis longispina (ff)	87.4	0.4	0.6	0.1	0.4	11.1	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dovyalis rhamnoides (ff)	90.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71	-
Flacourtia indica (ff)	71.8	0.6	0.9	1.0	20.7	5.0	137	48.1	27.3	1.21	4.60	188	0.36	0.40	-	16.2	0.03	0.06	0.24	5.4	-
FUNGI																					
Macolepi	76.1	1.2	5.0	0.7	3.5	13.5	337	1.32	20.9	1.15	5.50	500	0.76	1.07	-	188	0.46	0.96	-	1.90	-
Coprinus comatus	90.8	0.8	2.1	0.1	1.2	5.0	123	3.07	9.72	0.53	9.68	221	0.25	0.50	0.07	98.0	0.06	0.23	3.55	3.55	-
Terfezia pfeilii	80.1	1.6	4.1	3.5	2.6	8.1	338	9.23	19.1	4.55	3.24	290	0.60	0.56	-	142	0.13	0.14	0.60	2.1	-
GERANIACEAE																					
Pelargonium antidysentericum (b)	62.8	1.6	1.7	0.4	1.3	32.2	585	299	76.1	0.39	56.9	205	0.84	2.09	0.57	62.5	-	0.02	0.29	21.9	-
P. carnosum (tw)	68.0	2.3	2.1	0.2	2.6	24.8	459	497	148	0.91	33.5	266	0.23	0.70	0.79	35.5	0.03	0.02	0.78	15.4	-
P. incrassatum (b)	57.8	1.3	3.5	0.2	1.6	35.6	665	237	59.0	0.70	12.4	280	0.29	0.80	0.95	78.8	0.13	0.03	067	68.3	-
P. rapaceum (r)	57.2	1.1	1.1	0.3	1.4	38.9	683	175	38.8	0.82	6.5	213	0.12	0.28	2.17	47.8	0.01	0.01	0.44	40.0	-
P. Tirste (b)	63.3	1.0	2.0	0.3	1.0	32.4	589	97.7	60.8	1.42	12.5	278	0.15	1.08	2.51	50.2	0.02	0.05	0.55	38.4	-
HALORAGACEAE																					
Gunnera perpensa (l)	93.1	1.1	0.6	0.1	2.1	3.0	64	73.8	36.0	1.70	3.70	163	0.09	0.10	-	7.2	0.01	0.03	0.23	-	-
HYDNORACCEAE																					
Hydnora africana (ff)	69.9	2.2	1.7	2.0	5.9	18.3	412	8.49	27.1	0.93	80.1	738	0.40	0.60	0.12	88.9	0.12	0.09	0.76	13.8	-

HYPOXIDACEAE Spiloxene azuatica (b)	76.9	1.5	1.1	0.4	1.4	18.7	348	206	36.6	0.58	49.3	270	0.19	0.52	-	34.2	0.05	0.03	0.22	9.0	-
IRIDACEAE Babiana curviscapa (b)	57.2	0.9	5.4	0.3	0.6	35.6	35.6	700	54.3	28.7	1.55	17.8	204	0.44	0.75	0.28	81.2	0.14	0.05	1.20	-
B. dregei (b)	59.7	1.3	1.9	0.3	0.4	36.4	655	115	22.0	1.18	19.5	469	0.59	0.86	0.44	88.1	0.07	0.05	0.86	41.1	-
IRIDACEA B. hypogea (b)	79.0	0.4	-	-	0.4	-	-	50.1	23.9	0.50	0.50.	114	0.50	0.23	-	26.2	-	-	-	-	-
B. mucronata (b)	76.0	0.7	0.7	1.3	0.8	20.5	405	12.4	11.2	1.79	12.1	295	0.10	0.21	0.25	42.4	0.03	0.01	0.28	-	-
B. pubescens (b)	58.6	1.2	2.3	0.4	0.5	37.0	675	83.3	28.9	1.27	24.0	296	0.38	0.92	0.38	61.8	0.12	0.07	0.65	12.7	-
Hexaglottis longifolia (B)	58.6	0.6	1.9	0.2	0.4	38.3	683	27.4	17.5	0.70	10.9	163	0.14	0.47	0.52	45.1	0.11	0.02	0.67	92.2	-
Lapeirousia sandersonii (b)	47.4	1.0	2.4	0.1	0.6	48.5	859	17.8	33.2	1.30	18.1	204	0.51	0.58	-	58.8	-	-	-	27.5	-
Moraea fugax (b)	48.0	0.8	1.9	0.4	0.7	48.2	857	63.2	27.6	0.84	11.0	280	0.28	0.47	0.19	68.5	0.18	0.04	0.78	49.6	-
M. serpentina (b)	42.1	1.0	7.4	0.5	0.7	48.3	955	45.0	38.8	1.91	17.8	242	0.53	0.95	0.29	123	0.07	0.02	0.65	37.8	-
M. unguiculata (b)	51.3	1.0	1.1	0.3	0.5	45.8	799	38.2	23.1	0.47	15.3	293	0.38	0.25	-	80.9	0.16	0.05	0.72	45.0	-
Watsonia pyramidata (b)	69.3	0.7	0.9	0.3	0.6	28.2	500	40.5	23.9	0.54	11.8	322	0.20	0.40	-	17.2	0.04	0.01	0.636	14.9	-
LABIATEAE Mentha longifolia (l)	8.2	10.0	8.4	1.0	20.2	52.2	1056	1815	258	12.2	37.5	1788	4.88	5.09	5.77	287	0.11	0.65	2.96	-	-
LILIACEAE Albuca altissima (fs)	93.2	0.4	0.3	0.1	0.2	5.5	101	20.7	14.9	0.45	18.5	114	0.09	0.11	0.04	8.8	0.01	0.004	0.07	7.4	-
Allium dregeanum (b)	65.2	1.1	3.1	0.1	0.9	29.6	553	14.7	19.1	1.80	18.4	389	0.35	0.78	0.17	251	0.18	0.01	0.62	14.0	-
Allium dregeanum (stem)	73.9	0.7	1.2	0.2	9.8	142	266	361	19.5	1.58	14.2	281	0.78	0.93	0.13	120	0.06	0.03	0.34	20	-
Aloe ammophila (l)	93.2	1.0	0.5	0.1	0.1	5.1	98	4.85	37.9	0.40	0.25	123	0.07	0.16	-	-	0.02	-	-	2.3	-
Androcymbium sp. (l)	47.0	0.8	3.3	0.4	0.7	47.8	874	46.9	34.5	1.42	210.1	210	0.21	0.59	0.34	79.0	0.16	0.08	1.08	42.3	-
Dipcadi crispum (l)	81.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D. longifolium (l)	70.9	1.5	2.3	0.2	0.7	24.4	457	144	36.9	0.94	8.19	336	0.15	0.47	-	37.0	0.05	-	0.69	8.3	-
Dipcadi platyphyllum (b)	82.4	0.6	0.7	0.1	0.4	15.8	281	119	21.7	0.53	1.18	115	0.17	0.22	-	22.0	0.01	0.02	0.27	7.5	-
D. rigidifolium (b)	87.1	0.8	1.3	0.02	0.3	10.5	199	90.2	19.9	0.70	3.24	152	0.07	0.19	-	11.5	0.05	0.02	1.83	3.1	-
D. viride (b)	86.3	0.7	0.8	0.1	0.3	11.8	215	75.1	13.9	0.45	1.81	130	-	0.10	-	6.16	0.05	0.01	-	5.1	-
Dracaena hookerana (b)	82.0	0.8	1.4	0.5	2.0	13.3	266	56.1	20.3	0.69	6.0	382	0.18	0.33	-	13.0	-	-	-	4.4	-
Eriospermum parvifolium (b)	87.8	1.3	0.5	0.1	1.9	8.4	153	118	27.6	0.97	64.3	293	0.04	0.15	0.25	20.5	0.03	0.004	0.33	-	-
Ledebouria revoluta (b)	77.3	2.3	1.7	0.2	0.4	1.7	333	287	106	0.81	3.1	1.38	0.67	1.02	-	37.2	0.04	0.06	0.53	9.4	-
L. luteola (b)	65.7	1.2	3.6	0.4	2.7	26.4	519	131	18.9	2.1	5.2	178	1.03	1.39	-	37.6	0.12	0.18	0.84	5.5	-
Sansevieria pearsonii (r)	89.3	1.0	0.8	0.1	3.6	5.2	105	82.0	44.0	2.30	11.4	237	0.20	0.40	-	13.7	0.04	0.01	0.39	3.1	0.01

Scilla sp. (b)	80.3	0.7	1.4	0.1	0.5	17.0	313	154	19.6	0.44	8.61	81.5	-	0.22	-	12.3	0.07	0.03	0.03	9.5	-
Trachyandra falcata (stem with flowers)	84.9	2.1	2.2	0.5	2.8	7.5	182	165	56.7	4.2	99.3	385	0.27	0.65	0.30	57.4	0.05	0.01	0.57	96.2	-
T. falcata (stem)	89.6	1.2	0.8	0.1	2.2	6.1	119	70.4	26.4	2.0	124	235	0.30	0.94	0.06	20.9	0.02	0.01	0.14	75.1	-
LOBELIACEAE																					
Cyphia sp.	79.5	1.1	1.4	0.5	1.8	15.7	306	45.6	42.1	0.51	53.9	273	0.16	0.57	-	62.6	0.04	0.02	0.81	6.2	-
LOGANIACEAE																					
Strychnos cocculiodes (ff)	80.4	0.5	0.7	0.1	0.9	17.4	308	9.41	26.9	0.18	0.89	188	0.07	0.08	-	20.2	0.03	0.06	0.27	6.7	-
S. madagascariensis (ff)	73.7	1.1	1.0	4.2	5.4	14.6	421	16.5	28.6	1.53	9.74	400	0.37	0.48	-	33.7	0.06	0.05	0.70	12.2	0.30
S. pungens (ff)	72.1	1.0	1.1	0.8	6.2	18.9	367	29.3	38.1	0.62	2.00	478	0.25	0.34	-	27.1	0.05	0.42	0.96	10.7	0.05
S. spinosa (ff)	78.8	1.8	2.7	0.1	1.4	15.2	305	45.8	43.6	0.75	4.55	328	0.46	0.12	-	22.6	0.23	0.10	1.39	10.6	-
MALVACEAE																					
Aranza garckeana (ff)	14.8	4.0	5.0	0.5	19.8	55.8	1042	183	52.9	5.00	5.55	1198	0.84	0.38	-	63.7	-	0.15	1.26	-	-
Hibiscus rosa-sinensis (l)	6.4	14.4	25.9	4.4	5.0	43.9	1339	1235	499	19.6	64.8	3496	1.63	8.87	-	546	0.31	-	7.72	-	-
H. sabdariffa (l)	9.0	6.5	6.9	0.6	14.9	62.1	1185	1065	160	6.35	6.57	1291	1.94	2.76	5.81	311	0.35	0.36	2.80	4.2	-

Hibiscus trionum (1)	6,3	17,0	26,7	3,1	5,4	1,5	1263	2171	731	-	23,5	1793	2,22	5,70	-	296	-	-	-	-	-
Sida cordifolia (*)	6.6	13,7	24,2	3,4	6,8	45,3	1296	2299	667	79,8	15,3	1394	1,90	-	-	339	0,39	-	9,43	-	-
MELIACEAE																					
Ekebergia capensis (ff)	74,6	1,6	1,4	0.6	2,5	19,3	370	64,7	52.3	2.4	18.0	366	1.7	0.55	-	87.9	0.04	0.02	1.74	1	-
Trichilia emetica (s)	49,0	1,8	4,9	27,8	2,5	14,0	1368	101	114	1.72	15.7	618	0.82	1.16	-	106	0.29	0.08	2.71	18.2	-
MESEMBRYANTHEMACEAE																					
Carpobrotus edulis (ff)	69,2	2,4	2,1	0,3	1,7	24,3	454	188	100	1,14	295	372	0,13	0,48	-	53,7	0,09	0,05	0,23	0,8	-
Conicosia pugioniformis (r)	73,2	2.0	0,6	0,2	1,4	22,6	397	457	79,8	8,8	89,0	280	0,37	0,30	-	61,7	0,03	0,03	0,75	3,6	-
Mesembryanthemum aitonis (1)	91,3	5,6	1,3	0,1	0,8	0,9	41	31,5	34,9	7,20	1063	362	0,14	0,94	-	13,0	0,02	0.06	0,11	-	-
Rushia rigens (r)	74,6	1,7	2,9	0,1	7,9	12,8	268	324	169	5,7	6,2	716	0,9	-	-	18,3	-	-	-	-	-
MORACEAE																					
Ficus abutilifolia (ff)	85,2	0,7	0,7	0,9	3,0	9,5	205	85,8	37,0	0,12	5,85	270	0,09	0,12	-	28,0	0,04	0,07	0,23	17,0	-
F. ingens (ff)	75,2	1,3	1,6	1,1	9,7	11,1	255	118	56,9	1,96	1,61	415	0,31	0,76	-	44,9	0,04	0,10	0,50	7,6	-
F. lutea (*)	81,2	1,5	0,9	0,5	4,1	11,7	234	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F. sur (*)	87,01	1,3	1,1	0,4	4,5	5,7	129	77,3	35,6	0,67	3,48	392	0,17	0,35	-	28,3	0,02	0,04	0,97	12,0	-
F. sycomorus subsp. symomorus (*)	82,7	1,1	1,4	0,5	4,3	10,0	210	72,6	43,1	1,73	5,70	347	0,16	0,38	-	33,4	0,07	0,03	1,41	7,3	-
F. thonningii (*)	77,9	2,0	1,3	1,0	8,9	8,9	209	161	44,4	0,98	1,50	508	0,22	0,26	-	28,3	0,04	0,01	0,50	2,6 -	
MYROTHAMNACEAE																					
Myrothampus flabellifolius (l & tw)	6,3	3,3	7,6	3,5	27,5	51,8	1130	609	149	17,9	2,97	346	7,09	7,48	9,73	103	-	0,15	1,64	-	-
MYRSINACEAE																					
Maesa lanceolata (ff)	67,2	1,7	3,7	7,2	8,0	12,2	539	242	66,7	2,39	12,5	572	0,43	1,42	-	103	0,08	0,03	1,35	6,9	-
Rapanea melanophloeos (ff)	81,8	0,9	1,5	2,2	1,6	12,0	310	48,2	19,9	2,07	71,7	239	0,08	0,17	-	12,0	-	-	-	12,2	-
MYRTACEAE																					
Eugenia albanensis (ff)	85.9	0,7	0.8	0.3	3,0	9,3	181	31,0	12,0	0,48	32,3	197	0,05	0,09	0,23	10,0	0,007	0,006	0,35	24.4	0,001 3
E. capensis (*)	68.6	1,0	0,9	0.4	1,4	27,7	496	-	26,7	1,67	66,5	209	0,14	0,04	-	31,8	0,11	0,03	0,39	107	-
Syzygium cordatum (*)	85,8	0,8	0,6	0.2	1.5	11,1	204	31,9	29,8	1,43	8,16	222	0,18	0,20	-	14,2	0,03	0,31	0,46	11.6	-
S. jambos (*)	84,8	0.6	0,9	0,1	1,4	12,2	224	6,90	4,10	0,08	75,8	345	0,02	0,08	-	4,0	0,03	0,05	1,27	14,7	-
NYMPHAEACEAE																					
Nymphaea caerulea (ovary)	79.0	1.2	2,2	0.4	2.3	14.9	302	34,0	41,0	1,50	4,20	282	0,10	0,50	-	58,5	0,21	0,06	1,13	3,1	0,17
N. caerulea (rhizome)	85,5	2,3	0,7	0,2	2,1	9,2	174	98,0	21,0	3,80	59,0	305	0,10	0,20	-	44,9	0,02	0,07	0,39	-	0,05

OCHNACEAE																				
Ochna pulchra (ff)	63,2	0,9	6.3	7.5	1,5	20.6	735	34.1	45,9	1,00	1,74	232	2,65	1.85	-	74.6	0,04	0,08	0,90	-	0,03
OLACACEAE																				
Ximenia americana (ff)	64.8	1.9	2.8	0.8	1.2	28,5	556	7,58	31,1	1,27	3,33	718	0,28	0,68	-	34,2	-	-	-	69,7	0,68
X. caffra (")	77,4	1,3	1.9	1,5	0,9	17,0	374	8,17	19,0	0,49	1,25	558	0,7	0,29	-	35,4	0,03	0,02	0,48	68,2	0,89
ORCHIDACEAE																				
Eulophia hereroensis (b)	92,6	0,8	0,6	0,1	0,5	5,4	105	158	18,6	0,36	2,33	102	0,28	0,19	-	5,11	0,02	0,02	0,10	2,0	-
OXALIDACEAE																				
Oxalis annae (b)	48,0	1.1	5,5	0,2	0,5	44,7	851	9,50	17,5	2,42	1,20	260	0,20	0,49	0,08	92,4	0,15	0,01	0,55	34,0	-
O. fabifolial (")	49,0	0,7	1,7	0,4	0,7	45,5	808	66,7	32,3	1,36	11,9	229	0,32	0,35	0,27	59,5	-	-	-	85,8	-
O. flava (")	58,7	1,0	1,5	0,4	0,7	37,7	673	9,0	24,5	0,42	27,6	332	0,29	0,43	-	50,9	0,04	0,02	0,68	1,6	-
O. pes-caprae (1)	92,7	0,8	1,7	-	-	-	-	83,4	54,5	7,02	71,1	181	0,71	0,65	1,71	34,8	-	-	-	15,1	-
O. pes-caprae (b)	94,5	0,2	0,2	0,04	0,7	4,4	79	7,66	6,60	2,50	6,15	63,5	0,80	0,09	1,74	9,70	0,01	0,01	0,09	5,6	-
O. purpurascens (")	69,0	1,4	1,4	0,5	1,6	26,1	478	75,6	36,5	2,64	4,53	313	0,46	0,81	-	46,8	0,04	0,02	0,09	-	
PERIPLOCACEAE																				
Raphionacme burkei (t)	89,7	0.8	1,1	0,2	1.1	7,1	145	78,2	50,0	0,71	2,47	164	0,24	0,34	-	16,6	0,003	0,01	0,08	11,8	-
R. hirsuta (")	85,0	1,3	1,0	0,4	2,1	10,2	203	163	71,5	0,78	3,0	191	0,11	0,20	-	2,7	0,03	0,03	0,71	10,4	
POACEAE																				
Brachiaria brizantha (s)	5,8	7,6	8,1	1,9	34,4	42,2	917	85,4	226	3,09	16,5	671	2,2	4,26	-	160	0,81	0,55	2,60	-	-
Dactyloctenium aegyptium (s)	7,5	4,3	9.8	1,8	17,0	59,6	1234	66,5	220	6,90	24,7	724	1,92	4,65	-	297	0,91	0,27	2,14	-	-
Eleusine coracanna (")	9,2	5,1	6,2	1,5	2,9	75,1	1423	29,6	137	3,07	3,40	490	0,67	1,82	-	223					
Setaria sphacelata (")	5.0	10.6	11.1	2.1	29.9	41.3	960	-	221	6.50	68.4	675	1.75	2.86	-	250	0.41	0.65	5.21	-	-
S. italica (")	8.4	3.1	14.3	4.8	8.1	61.3	1452	21.0	148	3.07	3.95	410	1.30	3.50	-	397	1.05	0.17	0.59	-	-
PODOCARPACEAE																				
Podocarpus falcatus (ff)	72.7	1.2	3.0	0.3	5.2	17.6	357	46.0	20.1	1.60	11.5	460	0.98	0.20	-	10.3	0.04	-	1.13	-	-
POLYGALACEAE																				
Nylandtia spinosa (ff)	85.1	0.9	0.5	0.4	6.6	6.5	133	-	-	-	-	-	-	-	-	-	-	-	-	206	-
POLYGONACEAE																				
Rumex lancealatus (l)	82.8	1.9	4.6	0.7	1.8	8.2	242	111	85.0	9.70	14.0	693	0.13	2.40	-	74.1	0.12	0.17	1.55	-	-
PORTULACACEAE																				
Potrulacaria afra (l)	84.0	2.0	1.4	0.4	1.9	10.3	212	80.1	174	1.09	2.68	317	0.28	0.35	-	2.0	0.09	0.05	0.35	40.6	-
Portulaca oleracea (l)	93.2	2.5	2.2	0.1	1.0	2.0	74	112	123	4.24	36.2	416	0.19	0.80	-	57.0	-	0.04	0.47	10.4	-
Anacampseros sp. (")	87.1	1.6	2.0	0.4	1.2	7.7	178	114	63.8	13.8	32.2	176	0.34	0.44	0.95	24.1	0.02	0.07	0.58	41.7	-

A. papyracea (*)	73.3	4.6	1.1	0.8	1.2	19.0	368	868	266	23.4	6.50	537	0.52	0.53	4.27	81.8	-	-	-	-	-	
Talinum arnotii (*)	93.1	0.2	1.6	0.2	0.7	4.2	105	126	100	1.54	0.2	655	0.14	0.54	-	22.6	-	-	-	4.9	-	
T crispatulum (*)	91.0	1.4	3.4	0.1	0.6	3.5	120	320	95.3	-	-	368	0.10	0.26	-	25.9	0.05	-	-	8.0	-	
RHAMNACEAE																						
Berchemia discolor (ff)	78.8	1.0	1.1	0.6	2.8	15.7	305	88.6	30.9	2.24	6.04	270	0.20	0.27	-	40.1	0.03	0.06	0.53	50.3	0.11	
B. zeyheri (*)	76.3	1.1	1.1	0.1	0.7	20.7	370	75.8	39.2	1.02	1.30	313	0.24	0.17	-	25.0	0.09	0.11	0.27	6.5	0.10	
Rhamnus priniodes (*)	76.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34.5	-	
Scutia myrtina (*)	76.0	1.1	0.6	0.1	1.3	20.9	366	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Zizihus mauritiana (*)	24.4	2.6	3.2	0.6	2.4	66.8	1198	157	58.5	0.73	4.01	1078	0.32	0.39	-	101	0.05	0.08	1.96	-	-	
Z. mucronata (*)	56.4	3.2	3.8	0.5	2.1	34.4	659	129	58.3	0.95	5.05	726	0.86	0.52	-	51.4	0.06	0.05	0.71	42.6	-	
ROSACEAE																						
Grielum huillense	72.6	1.8	1.0	0.4	1.5	22.7	413	311	78.8	2.35	60.4	364	0.16	0.35	0.39	65.7	0.05	0.03	0.71	11.6	-	
RUBIACEAE																						
Canthium huillense (ff)	51.3	1.3	2.7	0.1	2.7	41.9	753	80.5	45.0	3.10	6.76	424	0.43	0.58	-	36.0	0.02	-	0.63	9.5	-	
C. inerme (*)	84.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Cephalanthus natalensis (wf)	83.4	0.5	0.7	0.3	3.6	11.5	216	29.2	28.3	1.97	12.3	115	0.23	0.22	-	19.0	-	0.04	0.17	2.2	-	
Fadogia monticola (ff)	66.2	1.3	1.4	0.7	3.9	26.5	495	31.0	38.3	-	10.0	458	0.80	0.40	-	27.5	0.02	0.04	1.04	-	0.21	
Tapiphyllum parvifolium (*)	69.6	0.8	1.3	1.0	11.2	16.1	330	8.5	16.4	0.23	1.78	340	0.10	0.15	-	28.8	0.05	0.03	0.47	3.4	-	
Vangueria infausta (*)	64.4	1.4	1.4	0.1	4.7	28.0	498	249	39.1	1.07	28.1	521	0.25	0.24	1.06	36.6	0.04	0.03	0.61	4.7	-	
SALVADORACEAE																						
Salvadora persica (*)	70.8	1.6	1.9	0.6	1.1	24.0	458	-	-	-	-	-	-	-	-	-	-	-	-	12.1	-	
SAPINDACEAE																						
Allophylus decipiens (*)	73.4	0.9	2.4	0.4	2.1	20.8	405	25.1	26.3	1.48	15.2	349	0.30	0.60	-	34.0	-	-	-	15.8	-	
Papea capensis (*)	89.0	0.7	-	-	-	-	-	11.2	11.6	0.58	1.56	250	0.28	0.03	-	15.1	-	-	-	-	-	
SAPOTACEAE																						
Bequaertiodendron magalismontanum (ff)	74.3	0.7	0.9	0.6	2.0	21.5	399	14.5	20.6	0.76	5.25	268	0.23	0.29	-	15.9	0.05	0.08	1.38	13.1	0.98	
Chrysophyllum viridifolium (*)	58.2	1.1	2.7	3.5	1.9	32.0	715	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Inhambanella henriquesii (*)	75.4	1.4	2.6	1.7	1.9	17.0	394	41.8	25.5	0.60	2.18	606	0.19	0.22	0.25	30.4	0.07	0.06	1.10	238	-	
Manilkara concolor (*)	71.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21.1	0.0031	
M. discolor (*)	71.0	1.3	2.1	1.9	2.1	21.6	470	81.9	26.5	0.75	4.97	474	0.13	0.25	1.98	23.6	0.04	0.04	0.35	12.4	0.002	

M. mochisia (*)	70.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mimusops caffra (*)	69.7	1.3	0.8	0.6	1.9	25.7	468	-	-	-	-	-	-	-	-	-	-	-	-	45.0	-
M. obovata (*)	70.2	1.7	1.9	0.3	3.0	22.9	428	43.9	51.5	0.88	51.6	489	039	0.21	-	26.0	-	-	-	60.0	-
M. zeyheri (*)	66.4	1.6	1.2	0.6	3.9	26.3	484	40.4	22.1	0.68	10.5	392	0.15	0.16	-	15.8	-	0.01	0.36	28.6	-
Sideroxylon inerme (*)	70.2	2.3	4.3	4.4	1.5	17.3	529	46.4	41.7	1.18	-	482	0.10	0.20	-	17.0	0.06	0.09	0.55	14.8	-
SOLANACEAE																					
Physalis peruviana (wf)	77.9	1.4	2.3	0.9	3.6	13.9	306	10.5	34.8	2.37	2.98	496	0.36	0.38	-	61.5	0.24	0.15	1.68	42.0	2.40
Physalis viscosa (l)	82.8	2.7	4.9	0.6	1.7	7.3	226	151	110	21.6	18.3	748	0.26	1.30	-	65.6	0.12	0.25	1.33	-	-
Solanum 'nigrum' complex (l)	82.5	3.7	5.3	0.4	2.8	5.3	193	278	84.0	8.54	9.97	421	0.36	1.16	-	105	0.10	0.32	1.07	22.3	6.38
STERCULIACEAE																					
Sterculia alexandri (s)	8.0	3.2	16.6	33.6	1.5	37.1	2172	31.9	212	2.50	8.80	1016	2.40	8.50	-	542	-	-	-	-	-
S. murex (s)	15.1	3.7	16.2	18.5	1.2	45.3	1733	15.7	104	2.60	5.40	1251	1.80	4.00	-	502	0.11	0.06	3.76	-	-
STRELITZIACEAE																					
Strelitzia nicolai (s)	1.9	0.5	3.6	65.7	17.8	10.5	2720	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TECOPHILAEACEAE																					
Cyanella hyacinthoides (b)	55.5	0.6	3.8	0.6	0.8	38.7	736	50.7	23.3	1.09	11.5	173	0.34	0.77	0.26	98.7	0.13	0.03	0.98	33.3	-
Walleria sp. (*)	63.8	0.8	1.7	0.3	1.1	32.3	582	132	33.2	2.21	2.40	183	0.18	0.33	-	22.0	0.05	0.12	2.90	19.8	-
TILIACEAE																					
Corchorus confusus (l)	72.1	3.0	4.8	0.7	6.5	12.9	324	536	108	16.4	5.51	801	0.55	1.04	-	84.0	0.08	0.10	0.81	-	-
C. olitorius (l)	70.5	3.5	4.6	0.5	7.3	13.6	325	423	137	-	11.3	814	0.73	1.79	-	99.7	0.12	-	-	-	-
Grewia avellana (fs)	18.3	3.2	7.0	0.7	28.2	42.1	851	150	112	1.78	3.76	1050	3.91	2.84	-	91.8	0.17	0.15	1.28	6.5	-
G. bicolor (*)	13.2	5.9	10.3	0.1	13.5	67.0	1302	268	317	5.92	12.4	1707	1.29	2.59	-	181	0.20	0.25	3.47	9.3	-
G. flava (*)	74.7	1.0	2.1	0.1	2.0	20.0	377	68.1	70.5	1.24	3.11	288	0.33	0.56	-	67.0	0.04	0.03	0.62	29.4	-
G. flava (*)	9.6	3.0	5.0	0.3	22.1	60.0	1103	163	169	3.85	3.10	981	0.32	1.26	-	86.5	0.07	0.20	1.63	-	-
G. flavescens (wf)	18.4	3.2	7.0	1.8	45.6	24.0	589	147	177	9.15	23.8	926	1.08	0.84	-	107	0.09	0.06	0.74	-	-
G. occidentalis (fs)	12.6	2.5	2.8	1.4	22.3	57.4	1080	183	130	-	78.0	579	1.02	1.14	-	76	-	-	-	18.4	-
G. retinervis (wf)	6.9	3.1	6.3	2.7	38.1	42.9	929	624	107	2.50	9.61	532	3.03	2.33	3.54	128	0.07	0.03	1.63	-	-
G. retinervis (fs)	6.9	3.2	4.9	0.3	15.9	68.8	1250	150	173	3.88	18.4	768	0.34	1.11	-	54	0.03	0.04	1.61	-	-
G. schinzii (*)	69.6	21	2.4	0.6	1.8	23.5	458	-	63.9	0.9	2.10	197	0.5	-	-	41.8	-	0.03	0.23	-	-
G. tenax (*)	9.2	2.6	5.5	0.3	19.7	62.7	1157	-	-	-	-	-	-	-	-	-	-	-	-	-	-

G. villosa (*)	70.0	2.0	3.3	0.2	1.9	22.6	443	-	34.6	0.9	3.80	224	-	-	-	41.0	-	-	-	-	-
ULMACEAE																					
Trema oreintalis (ff)	74.1	2.3	4.5	0.5	1.8	21.3	452	-	-	-	43.0	302	0.18	0.58	-	66.9	-	-	-	51.5	-
URTICACEAE																					
Urtica urens (l)	80.2	4.9	5.4	0.7	2.1	6.7	229	668	133	7.24	35.9	524	0.30	0.69	-	122	0.04	0.31	1.07	-	6.07
VERBENACEAE																					
Clerodendrum uncinatum (ff)	79.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21.5	-
Lantana camara (tw)	7.3	11.4	13.2	2.4	11.0	54.7	1231	1527	357	14.9	3.43	1425	4.34	7.28	12.6	149	0.28	0.95	3.26	-	-
Lantana rugosa (wf)	66.8	3.5	2.9	3.4	3.8	19.6	507	48.1	126	18.9	-	597	1.13	0.69	-	140	-	-	-	5.1	-
Vitex payos (ff)	13.2	5.5	3.2	0.7	5.2	72.2	1293	65.0	80.0	6.00	8.75	1875	0.10	3.00	-	48.7	0.09	0.16	0.69	-	-
Vitex pooara (*)	72.0	1.4	1.1	0.3	2.8	22.4	406	13.0	44.3	1.90	2.30	532	0.96	0.42	-	19.7	0.02	0.04	0.32	2.0	-
VITACEAE																					
Cyphostemma congestum (ff)	96.1	0.2	0.4	0.1	0.6	2.6	54	18.6	8.70	0.18	0.14	32.4	0.04	0.14	-	6.6	-	-	-	3.6	-
C. sandersonii (*)	90.4	0.9	0.4	0.2	0.7	7.4	139	57.8	42.8	0.08	1.82	357	0.05	0.12	-	12.5	0.08	0.02	0.24	29.0	-
C. uter (*)	92.0	1.0	0.5	0.1	0.9	5.5	105	54.4	17.2	1.10	39.3	212	0.04	0.40	-	39.0	0.04	0.01	0.01	-	0.12
Rhiosissus digitata (*)	81.5	1.7	0.9	0.1	2.0	13.8	251	71.1	17.9	0.92	8.14	568	0.11	0.35	-	12.5	0.04	0.10	1.00	17.0	-

Table 2.

~~TABLE 1~~

PLANT	FATTY ACID CONTENT OF THE OIL EXTRACTED FROM SEEDS g FATTY ACID/100 G OIL														
	14:00	16:0	16:1	18:0	18:1	18:2	18:3	18:3	20:0	20:1	20:4	22:0	22:1	24:0	
Acacia nilotica	0.1	13.1	0.1	5.4	28.0	51.0	0.6		0.5			1.6		0.4	
Acanthosicyos horrida*	0.2	11.9	0.3	7.5	25.5	52.7	1.0		0.9						
A. naudiniana*		17.7		6.1	16.4	59.5									
Adansonia digitata*	0.2	24.4		2.3	33.5	33.0	0.9		0.6	0.2		0.2		0.2	Malvalic acid 1.6 Sterculic acid 1.4
Afzelia quanzensis		3.3	0.1	2.7	9.0	29.6	0.7		0.4			2.7			(4 unidentified fatty acids = 53%)
Allophylus decipiens		3.9	2.3	34.9	3.0	13.3			38.9			2.7			
Baikiaea plurijuga	0.1	18.9		4.4	20.5	49.1	0.9		0.1			2.2		2.9	
Bequartiodendron magalismontanum	0.5	18.8	0.2	8.2	48.3	21.7	1.2		0.6						
Berchemia discolor		13.8		11.5	56.0	10.7	2.1		5.2			1.2			
Carrissa macrocarpa		11.1		6.9	72.8	6.9	1.8		0.5						
Cassine matabelicum	0.4	15.9	0.1	4.4	14.9	50.3	13.5								
Diospyros rumulosa		17.3		9.9	49.8	19.5	1.3		2.1						
Dovyalis caffra	0.1	20.7		8.7	11.3	57.3	0.7		0.6	0.2					
Elephantorrhiza elephantina		14.8	0.2	5.8	14.8	35.5	0.7		0.9				0.4		
Euclea tomentosa		27.3		6.2	29.3	30.4			3.8	1.2					
Eugenia capensis	0.6	26.7		2.4	30.1	29.7	4.9		3.6						
Grewia occidentalis*	0.1	9.4	0.1	6.0	13.2	70.7			0.4						
G. retinervis*	0.1	12.7		7.3	12.7	67.1									
Guibortia coleosperma*	0.1	18.7	0.1	3.1	26.1	44.0	1.8		0.7			3.4		2.1	
Julbernardia globiflora	0.1	35.4		7.6	19.8	33.5	0.5		1.5			1.0		0.7	
Maytenus undata	0.2	16.6		5.7	71.4	5.6									
Mimusops obovata		12.6		0.9	59.1	15.4	3.6		0.7						
M. zeyheri		15.1		8.5	47.6	26.2	0.9		0.6			0.3			
Momordica balsamina	0.6	14.4		10.2	26.7	20.1	3.8		0.4						(Unidentified fatty acid = 23,1%)

Table 2
TABEL 2

PLANT	FATTY ACID CONTENT OF THE OIL EXTRACTED FROM SEEDS g FATTY ACID/100 g OIL														
	14:00	16:0	16:1	18:0	18:1	18:2	18:3	18:3	20:0	20:1	20:4	22:0	22:1	24:0	
Nylandtia spinosa		9.1		3.5	42.1	34.0	11.4								
Olea africana	0.1	9.7	0.1	3.9	62.4	21.9	0.8		0.6			0.3			
Pappea capensis		2.8	0.1	1.3	35.2	1.9	45.6		10.4			0.9	1.7		
Parinari capensis* (Subsp. Capensis) (shrub)		0.5		4.6	20.6	16.6	1.0	α 45.4 β 6.4							
P. curatellifolia* (tree)		6.7		6.6	12.6	14.7	0.3	α 56.1 β 3.0							
P. curatellifolia* (Subsp. incohata) (shrub)		6.9		6.8	15.2	12.8		α 57.7 β 0.7							14:0 mytristic acid
Podocarpus falcatus		2.8		3.2	42.7	31.6	4.1		0.2						16:0 palmitic acid
Rhus lancea	0.7	15.5		4.2	21.1	56.4									16:1 palmitoleic acid
Ricinodendron rautenenii*	0.07	10.1		6.7	15.0	42.2	0.2	α 22.1 β 2.0	0.2	0.6					18:0 stearic acid
Sclerocarya birrea*	0.07	10.7	0.2	5.6	71.9	9.7	0.05		0.6	0.4		0.1		0.2	18:1 oleic acid
Sideroxylon inerme	0.9	11.7		10.6	40.9	32.7	0.6		1.0			0.4		1.2	18:2 linoleic acid
Sterculia rogersii	0.1	17.9		26.5	52.2										18:3 Δ 9.12.15 linolenic acid
Tabernaemontana elegans		15.4		9.2	57.2	17.2	0.1		0.6						18:3 Δ 9.11.13 α en β eleostearic acid
Telfairia pedata*		55.9		23.8	2.7	10.8			6.8						20:0 eicosanoic acid
Terfezia pfeilii +		4.8		20.5	8.2	65.8			0.2						20:1 cis-11-eicosenoic
Trichilia emetica*		38.3		2.2	48.5	10.4	1.0								20:4 arachidonic acid
Trylosema esculentum*	0.2	17.5	0.6	10.4	55.4	1.0			7.4	0.5			1.6	1.1	22:0 docosanioc acid
Welwitschia mirabilis	0.2	22.7	0.7	5.2	17.3	14.6	36.5							1.0	22:1 cis-13-docosenoic acid
Xanthoceris zambesiaca		18.1	0.6	5.3	55.8	6.9	10.3		0.8			1.0		1.1	24:0 tetracosanoic acid

* Seeds marked with an asterisk are usually eaten by humans.

+ This is a fungus and oil extracted from the fruit was analysed

TABLE 3

AMINO ACID CONTENT OF THREE EDIBLE WILD PLANTS
g AMINO ACID/100 g

Amino acid	Ricinodendron rautanenii		Tylosema esculentum	Terfezia pfeilii
Essential	**Dry flesh**	**Kernel**	**Kernel**	**Flesh**
Histidine	0.1	0.7	0.7	0.10
Lysine	0.2	0.7	1.6	0.20
Phenylalanine	0.2	1.3	1.3	0.18
Tryptophan	-	-	-	-
Methionine	Trace	0.4	0.2	0.03
Thereonine	0.2	1.0	0.9	0.16
Leucine	0.2	1.4	1.8	0.20
Isoleucine	0.2	0.7	1.0	0.12
Valine	0.2	1.8	0.9	0.15
Semi-essential				
Argine	0.7	3.5	1.9	0.19
Tyrosine	0.1	0.5	3.3	0.16
Cystine	-	-	Trace	0.03
Glycine	0.2	1.2	1.8	0.14
Non-essential				
Serine	0.3	1.3	1.7	0.15
Glutamic acid	0.7	4.2	5.1	0.42
Aspartic acid	0.4	2.4	3.5	0.45
Alanine	0.4	1.0	1.1	0.20
Proline	0.2	1.2	2.3	0.20
Glucosamine	-	-	-	0.41

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