

A survey and analysis of traditional medicinal plants as used by the Zulu, Xhosa and Sotho

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ABSTRACT

A coded list of 794 traditional Zulu medicinal plants is presented with a key to the ailments concerned. Xhosa and Sotho usage of these plants is incorporated. Medicinal usage in the pteridophytes, gymnosperms, monocotyledons and dicotyledons is tabulated. Ailments are categorized and discussed with an analysis of the plant families involved in their treatment. Patterns of usage between related plants are observed and some potentially effective or dangerous characteristic family constituents are briefly outlined.

UITTREKSEL

'n Gekodeerde lys van 794 tradisionele medisinale plante van die Zoeloes word aangebied met 'n sleutel tot die betrokke ongesteldhede. Die gebruik van hierdie plante deur Xhosas en Sotho's word ook vermeld. Benutting van die pteridofiete, gymnosperms, monokotiele en dikotiele is getabuleer. Ongesteldhede word gekategoriseer en bespreek met 'n ontleding van die plantfamilies wat by die behandeling betrokke is. Benuttingspatrone tussen verwante plante is waargeneem en sekere potensieel doeltreffende of gevaaarlike stowwe wat kenmerkend in families voorkom, word kortlik aangevoer.

INTRODUCTION

The data on which this paper is based come mainly from a literature survey conducted by the author towards the compilation of a Pharmacopoeia of Zulu Folk Medicine, which was initiated at the University of Zululand by Dr A. H. Scott in 1986. Xhosa and Sotho usage of the plants, which is closely allied, has been included. Data from the author's previous fieldwork in Transkei and limited personal interviews with Zulu and Xhosa traditional healers is included and further data have been abstracted from a list of the Botanical Research Institute's holdings of medicinal plants. The main sources of information on usage have been 1, A. T. Bryant, whose work on Zulu medicine was originally published in the *Annals of the Natal Museum* in 1909 but later destroyed by fire and republished in 1966 (Bryant 1966); 2, J. Gerstner, who published his work on Zulu plant names and usage between 1938 and 1941 (Gerstner 1938, 1939, 1941); and 3, Mairn Hulme, who included Zulu usage and also illustrated her book (Hulme 1954). Watt & Breyer-Brandwijk (1962) was also consulted and additional information on Sotho usage is from A. Jacot Guillarmod (Jacot Guillarmod 1971).

It would be of great interest to compare the number of plant species used with the number of plant species known to be available, but research in this field, embracing both ecological and trading aspects, is beyond the scope of this paper. Comprehensive research into the

toxicity and active chemical principles in the plants used is also beyond the scope of the paper.

DISCUSSION OF LIST OF MEDICINAL PLANTS

A total number of 794 plant species with specific usage known has been recorded. These are grouped as pteridophytes, gymnosperms, monocotyledons and dicotyledons. They are arranged in alphabetic order according to family and within the family alphabetically according to genus and species. All plant names used in the literature surveyed have been recorded and the names listed have been updated according to Gibbs Russell *et al.* (1985, 1987). Authors' names have been omitted from the coded list to save space so that uses could be tabulated and similarities in the usage of related species could be easily seen.

Plants of the same genus which could not be identified to species level have been counted as one species unless, as in the case of the *Plectranthus* spp. illustrated by Hulme (1954), it is quite evident that different species are being referred to.

The species listed have been coded according to ailment. These ailments have been very broadly categorized and determined largely by symptom, as is traditional treatment. Overlaps occur, as in the case of bladder and urethral disorders, which have been classed by the author as a common renal ailment but could be caused or affected by procreation-related ailments such as sterility and venereal disease.

The presence of a known or suspected toxic element recorded in the literature surveyed is indicated by an asterisk in the coded list at the end of this article. The toxic element may not always be known in the part of the plant used.

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Key to ailments:

- A — Sexual
- B — Sterility
- C — Venereal
- D — Gynaecological
- E — Newly born infants
- F — Gastro-intestinal
- G — Renal
- H — Tonic
- I — Growths
- J — Respiratory
- K — Febrile
- L — Headaches
- M — Heart
- N — Nervous
- O — Pain producing
- P — Leprosy
- Q — Dental
- R — Sorcery
- S — Snake-bite
- T — Skin
- U — Sprains, fractures
- V — Eyes, ears and nose
- W — Insecticidal
- X — Charm
- Y — Animal

- a — Includes use as anthelmintic
- c — Includes enema administration
- d — Includes use against diarrhoea
- e — Includes use as an emetic
- i — Given to infants or children
- p — Taken regularly during pregnancy
- r — Rubbed into scarifications
- s — Snuffed or inhaled
- * — Toxic

- 7 Orchidaceae
- 4 Iridaceae*
- 5 Fabaceae

- 3 Liliaceae*
- 3 Amaryllidaceae
- 3 Rubiaceae

C. Venereal diseases (syphilis and gonorrhoea) may be treated with orally administered decoctions or, in cases of discharge, medicine may be inserted directly into the penis or vagina in liquid form or as a pill of pounded leaves, and charred powdered leaves or a poultice may be applied directly to venereal sores (Bryant 1966).

Of the 34 species recorded as venereal disease remedies, three or more occur in the following five families, accounting for 19:

- 6 Liliaceae*
- 4 Asteraceae
- 3 Ranunculaceae*
- 3 Fabaceae*
- 3 Solanaceae*

D. Gynaecological remedies include medicines taken regularly during pregnancy to ensure a safe delivery and a healthy child. These may be mixtures of various ingredients, usually roots (Gerstner 1941) or may be made from the roots of a single plant, soaked in water, which is drunk daily by the expectant mother. Also included are medicines administered during childbirth, or for painful or delayed menstruation, to stimulate breast development or the flow of milk, or to procure abortions.

Of the 78 species recorded, three or more occur in the following six families, accounting for 37:

- 12 Liliaceae*
- 10 Asteraceae*
- 4 Amaryllidaceae*
- 4 Ebenaceae*
- 4 Scrophulariaceae
- 3 Euphorbiaceae*

Of the 78 species used for gynaecological purposes, 38 are recorded as taken regularly during pregnancy, three or more of which occur in the following three families, accounting for 16:

- 8 Liliaceae*
- 5 Asteraceae*
- 3 Amaryllidaceae*

E. Newly-born infants are sometimes given purification purges at birth and later at weaning; these may be administered orally or as an enema. Medicines may be applied to the navel or fontanel at birth and others may be applied to the mother's breast at weaning. Sometimes newly born infants are held in the smoke of a burning plant in a protective or purification ritual.

Of the 18 species recorded, seven occur in Liliaceae.

Stress-related ailments (L—O in key and coded list of plants)

(Note—the term stress-related is used here to refer to ailments that are caused by psychological stress, although there may be other causes.)

L. Headaches are considered by traditional healers to be caused by emotional or mental disturbance. They are often treated by snuffed or inhaled medicines and occasionally leaves are wrapped around the head.

Of the 44 species recorded, three or more come from the following five families, accounting for 22:

- 6 Euphorbiaceae*
- 6 Asteraceae*
- 4 Ranunculaceae*
- 3 Fabaceae*
- 3 Asclepiadaceae*

M. Cardiac ailments include high blood pressure, chest pain not associated with respiratory complaints and bad dreams believed to be caused by heart problems (Bryant

95 of the 109 species are used as love charm emetics.

B. Sterility remedies include cures for both women and men. Barrenness in women is usually treated with a purgative or an enema or medicine may be directly introduced into the womb. Sterility and impotence in men is treated with orally taken infusions, or powdered medicines may be blown through the urethra (Bryant 1966). Also included are medicines taken, usually orally, by a couple desiring a particular gender in a child, or medicines taken by both parents after a miscarriage.

Of the 45 species recorded as sterility remedies, three or more occur in the following six families, accounting for 25:

- | | |
|------------------|--------------------|
| 13 Orchidaceae | 4 Gentianaceae |
| 13 Fabaceae* | 4 Scrophulariaceae |
| 11 Liliaceae* | 4 Acanthaceae |
| 7 Rubiaceae | 4 Asteraceae* |
| 5 Euphorbiaceae* | 3 Amaryllidaceae* |
| 4 Apiaceae | 3 Caryophyllaceae |
| 4 Acanthaceae | |

1966). Treatment may be administered in the form of an emetic or enema.

Of the 21 species recorded, three occur in the following two families, accounting for six:

3 Liliaceae* 3 Fabaceae*

N. *Nervous* or psychological ailments include hysteria, mental disturbance, nightmares, states of believed bewitchment, states of impurification after the death of a kraal member and states of trance which need to be induced in the diviner to enable her to fulfil her function. Emetics and snuffed or inhaled medicines are frequently used for these purposes.

Of the 133 species recorded for nervous ailments, three or more come from the following 12 families, accounting for 81:

16 Fabaceae*	5 Iridaceae*
12 Asteraceae*	4 Euphorbiaceae*
8 Liliaceae*	4 Apiaceae
8 Rubiaceae	3 Hypoxidaceae*
7 Orchidaceae	3 Sapindaceae
8 Asclepiadaceae*	3 Solanaceae*

O. *Pain producing* ailments include pain in the joints or back, rheumatism and also paralysis. Although these may obviously not always have a psychological cause, there is a traditional belief that the joints are the most vulnerable area to the entrance of evil spirits (Ngubane 1977) and conversion disorders often do take the form of pain in the joints and sometimes paralysis. Dried powdered medicine is frequently rubbed into freshly cut scarifications to treat these conditions and other forms of administration such as enemas and emetics are also used.

Of the 46 species recorded, three or more come from the following families, accounting for 13:

7 Liliaceae* 3 Meliaceae*

Miscellaneous ailments (F-K and Q-Y in key and coded list of plants)

F. *Gastro-intestinal* ailments include:

1. stomach ache and constipation, which are treated with enemas or orally administered purges;

2. intestinal worms which are treated with orally administered anthelmintics or enemas;

3. diarrhoea and dysentery which are treated with an orally administered medicine, frequently followed by an enema of the same medicine;

4. nausea or the accumulation of bile is treated with an emetic;

5. indigestion, for which small pieces of root, bark or leaves may be chewed;

6. haemorrhoids and a condition which Bryant (1966) and Ngubane (1977) refer to as gangrenous rectitis, which is frequently treated with an enema, or a locally applied lotion or powder and may also be treated with an orally taken decoction.

Of the 318 species recorded for gastro-intestinal complaints, three or more occur in the following 35 families, accounting for 252:

40 Asteraceae*	4 Poaceae
27 Liliaceae*	4 Cyperaceae
19 Fabaceae*	4 Amaryllidaceae*
12 Rubiaceae	4 Polygonaceae
13 Euphorbiaceae*	4 Amaranthaceae
11 Iridaceae*	4 Mesembryanthemaceae
8 Lamiaceae	4 Rosaceae
7 Crassulaceae*	4 Geraniaceae
7 Asclepiadaceae*	4 Meliaceae*
7 Convolvulaceae	4 Anacardiaceae*
7 Cucurbitaceae*	4 Scrophulariaceae
6 Ebenaceae*	3 Aspidiaceae*
6 Celastraceae*	3 Ranunculaceae
5 Apiaceae	3 Rutaceae
5 Myrsinaceae*	3 Sapindaceae*
5 Verbenaceae	3 Gentianaceae
5 Solanaceae*	3 Apocynaceae*

Of the 318 species recorded as gastro-intestinal remedies 46 are recorded as anthelmintics and 54 as diarrhoea and dysentery remedies. These species may also be used for other gastro-intestinal purposes.

Of the 46 recorded anthelmintics, three or more occur in the following four families, accounting for 22:

8 Asteraceae*	4 Myrsinaceae*
7 Liliaceae*	3 Aspidiaceae*

Of the 54 recorded diarrhoea and dysentery remedies, three or more occur in the following six families, accounting for 30:

10 Fabaceae*	3 Sapindaceae*
7 Iridaceae*	3 Rubiaceae
4 Geraniaceae	3 Asteraceae

G. *Renal* ailments include kidney and urinary tract complaints. Medicines may be orally administered, sometimes followed by an enema of the same medicine after three days of treatment, or medicines may be rubbed into incisions cut in the loins or inserted directly into the urethra or a poultice may be applied externally.

Of the 44 species recorded for renal ailments, three or more are found in the following five families, accounting for 19:

5 Amaryllidaceae*	3 Apocynaceae*
5 Asteraceae*	3 Euphorbiaceae*
3 Liliaceae*	

H. *Debility* ailments include general weakness, a low resistance to infections, blood impurities and a lack of appetite. They are treated with orally taken tonics, emetics or enemas.

Of the 58 species recorded for debility, three or more come from the following six families, accounting for 24:

8 Asteraceae	3 Apocynaceae*
4 Euphorbiaceae*	3 Periplocaceae
3 Fabaceae	3 Rubiaceae

I. *Swellings or growths* include swollen glands, scrofulous and dropsical swellings and external or internal swellings or lumps which may or may not be cancerous. Medicines may be administered orally, sometimes followed by a poultice made from the same ingredients, or powdered medicines may be rubbed into incisions cut around the swelling.

Of the 31 species used to treat swellings, three or more come from the following two families, accounting for eight:

5 Euphorbiaceae*	3 Asteraceae*
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J. Respiratory ailments include chest pain from pleurisy or bronchitis, coughs, sore throats and asthma or catarrh. They are frequently treated with emetics, which perform an expectorant function, or medicines may be chewed, drunk, snuffed, inhaled or rubbed into incisions on the chest.

Of the 144 species recorded for respiratory ailments, three or more come from the following 14 families, accounting for 92:

27 Asteraceae*	5 Verbenaceae
12 Fabaceae*	4 Rubiaceae
8 Euphorbiaceae*	3 Phytolaccaceae*
6 Liliaceae*	3 Brassicaceae
5 Amaryllidaceae*	3 Capparaceae*
5 Apiaceae*	3 Ebenaceae*
5 Lamiaceae	3 Celastraceae*

K. Febrile complaints include influenza, colds and fevers, including malaria and rheumatic fever. They are frequently treated with emetics. Snuffed or inhaled medicines may also be administered and the patient may be steamed or bathed to reduce the fever.

Of the 123 species involved, three or more come from the following 13 families, accounting for 82:

21 Asteraceae*	3 Iridaceae*
12 Fabaceae	3 Rutaceae
10 Lamiaceae	3 Amaranthaceae
6 Liliaceae*	3 Apiaceae
6 Euphorbiaceae*	3 Scrophulariaceae
5 Rubiaceae	3 Lobeliaceae
4 Amaryllidaceae*	

P. Leprosy is usually now referred by traditional healers to the hospitals. Only two remedies have been recorded and they are from Melianthaceae and Passifloraceae.

Q. Toothache and sore gums are treated with lotions or powders rubbed on to the painful area.

Of the 30 species recorded for toothache, three or more are from the following three families, accounting for 12:

5 Solanaceae*	3 Euphorbiaceae*
4 Asteraceae*	

R. Sorcery is believed to be the cause of many illnesses and certain plants are believed to be used by sorcerers to bring about evil. The same plants may be taken as an antidote to the disease thus brought about, usually in the form of an emetic.

Of the 16 species recorded as sorcerer's medicines, three each are from the following two families, accounting for six:

3 Euphorbiaceae*	3 Apiaceae*
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S. Snake bite remedies may be taken or locally applied, the same medicine often being administered at the same time in both forms. Dried ground snakes' heads are sometimes an ingredient in the medicine.

Of the 43 species recorded, three or more come from the following six families, accounting for 20:

4 Thymelaeaceae*	3 Fabaceae*
4 Asteraceae*	3 Euphorbiaceae*
3 Phytolaccaceae*	3 Apocynaceae*

T. Skin complaints include sores, wounds, burns and rashes. These complaints may be treated by applied lotions, poultices or washes. Washes may also be given

to reduce the temperature in fevers. Also included are hair restorers.

Of the 100 species recorded, three or more come from the following 10 families, accounting for 64:

15 Asteraceae*	4 Amaryllidaceae*
11 Fabaceae*	4 Thymelaeaceae
9 Solanaceae*	4 Acanthaceae
7 Euphorbiaceae*	3 Verbenaceae
4 Liliaceae*	3 Lamiaceae

U. Fractures, sprains and bruises may be treated with lotions, or powder may be rubbed into scarifications as an anti-inflammatory around the site of the damage.

Of the 40 species recorded, three or more come from the following three families, accounting for 12:

6 Asteraceae*	3 Crassulaceae*
3 Euphorbiaceae*	

V. Ear, eye and nose complaints are treated with lotions or sap directly squeezed from the plants.

Of the 39 species recorded, three or more come from the following four families, accounting for 19:

7 Liliaceae*	3 Crassulaceae*
6 Asteraceae	3 Rosaceae

W. Insecticides and piscicides include medicines applied to rid the body of lice and fleas and those used to repel or kill flies and those used to stun fish so that they may be caught.

Of the 21 species recorded, three or more come from the following two families, accounting for 12:

9 Fabaceae*	3 Asteraceae
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X. Charms may be applied to placate evil spirits, for protection against enemies and storms, for good luck or to make the user liked. They may be bathed with, worn, sprinkled or burnt in the home or fields or cultivated as protective plants.

Of the 182 species recorded, three or more come from the following 14 families, accounting for 126:

27 Liliaceae*	7 Fabaceae*
18 Orchidaceae	7 Euphorbiaceae*
15 Asclepiadaceae*	6 Apiaceae
11 Asteraceae*	3 Rhamnaceae
9 Amaryllidaceae*	3 Scrophulariaceae
9 Crassulaceae*	3 Rubiaceae
8 Iridaceae*	

Y. Animals may be given medicines to prevent or cure disease. Also included are medicines applied as theft deterrents, either in the field or on eggs or drying animal skins.

Of the 102 species used to treat or deter animals, three or more come from the following 11 families, accounting for 53:

11 Asteraceae*	3 Amaryllidaceae*
9 Fabaceae*	3 Dioscoreaceae*
7 Liliaceae*	3 Urticaceae
6 Asclepiadaceae*	3 Geraniaceae
5 Lamiaceae	3 Vitaceae*

It may be observed (Table 1) that among the medicinally used plants recorded, a higher proportion of monocotyledons are used as externally applied charms and for procreation-related purposes and that there is a slightly wider range of medicinal usage among the dicotyledons. Further analysis reveals that among the mono-

cotyledons 43 % of the species are used for procreation-related ailments, 37 % as externally applied charms and 26 % for possibly stress-related ailments whereas among the dicotyledons 27 % are used for procreation-related ailments, 26 % for possibly stress-related ailments and 19 % as externally applied charms. In both groups the greatest proportion of plants used for other ailments are used for gastro-intestinal purposes (32 % of monocotyledons and 42 % of dicotyledons) and respiratory ailments (11 % of monocotyledons and 20 % of dicotyledons). This is reflected in Tables 2 & 3.

DISCUSSION

Perception of aetiology also determines treatment. According to Bryant (1966) and Ngubane (1977), most common ailments are believed to be caused by an excess of bile or gall, which needs to be removed. Diseases believed to be caused by evil spirits or pollution also require catharsis. This explains the wide use of emetics, enemas and purgatives. A total of 238 of the plants recorded for this study, i.e. 30 %, are used as emetics—where use as an emetic has been recorded with no specific ailment, the plant has been considered to be used for gastro-intestinal purposes. Emetics are not normally given to young children but enemas are and are considered by medical staff to be the cause of some of the poisoning cases and liver damage seen in hospitals (Savage & Hutchings 1987). Forms of administration are not always recorded in the sources consulted and more plants are probably used for enemas than appear on the list. Species indicated as being used for children are frequently administered in this way. Patterns of usage between closely related species, such as the use of pteridophytes as anthelmintics, Orchidaceae as love charm emetics, Ranunculaceae species for headaches, Thymelaeaceae species for skin complaints and snake bite or Lamiaceae for febrile conditions and various Asclepiadaceae for nervous complaints, are discernible in the list.

Such patterns of usage could obviously indicate that related plants share chemical constituents, which would in turn account for their possible effectiveness and/or toxicity. Some characteristic family constituents with some of their likely effects and potential dangers are given below.

Widespread steroid saponins, cardiac glycosides in some of the Liliaceae and toxic alkaloids in the Amaryllidaceae are among the potentially dangerous constituents found in monocotyledonous plants, of which so many are used in the procreation-related ailments. Steroidal saponins may affect the sex hormones and are relatively harmless when taken by mouth but found highly toxic if they enter the blood stream (Trease & Evans 1983). This may happen if there is any damage to the mucous lining of the gastro-intestinal tract when enemas are administered as, according to Ngubane (1977), the dosage is controlled to enable the patient to retain the medicine for a time. This custom would also make enemas made with other toxic material more dangerous than emetics as absorption of material through the rectum is easier than through the small intestine. Steroid or triterpenoid saponins (which are common in the dicotyledons) are often

found in the plants used as emetics and have the property of foaming and also frequently irritate the mucosa. This may account for their expectorant and decongestive action when used for chest ailments. Anti-microbial, cytostatic and anti-inflammatory activity have been demonstrated in saponins (Lower 1985).

Cardiotonics, which can have a diuretic action by increasing the renal bloodflow, may be found in members of various other families apart from Liliaceae and these include Apocynaceae and Asclepiadaceae, Rubiaceae and Solanaceae (see Oliver-Bever 1986). The diuretic action would be helpful in cases of gonorrhoea and also in various kidney or heart diseases which cause dropsical swellings. Various species of the above-mentioned families are used for venereal diseases, renal complaints, dropsical swellings or heart complaints and may be found effective.

The toxic Amaryllidaceae alkaloids produce gastro-intestinal upset (Jasperson-Schib 1970). Highly toxic species are found in other alkaloid-containing families such as Apocynaceae, Solanaceae and Euphorbiaceae. These species also owe their effectiveness as purges and their potentially dangerous properties to extreme gastric irritation.

Antipyretic, protozoicidal and local anaesthetic properties are to be found in many of the West African species of the alkaloid-rich Rubiaceae family (Oliver-Bever 1986) and members of the family locally used for febrile ailments would probably merit further investigation. Alkaloids have a marked action on the central nervous system and can act as depressants (e.g. the sedative reserpine from *Rauvolfia vomitoria* Afzel.) or stimulants (e.g. the *Strychnos* alkaloids) which may account for the use of various species from families such as Euphorbiaceae and Solanaceae for nervous complaints.

Tannin has frequently been observed in the parts of the plant used in the treatment of dysentery and diarrhoea or for respiratory ailments and is a characteristic constituent of many of the families thus used (e.g. Rosaceae, Fabaceae, Geraniaceae). It is likely to be effective on account of its protein-precipitating properties which, in small doses, would form a protective, impermeable layer and also tend to prevent the development of bacteria—large doses would irritate the mucosa (Flück 1976).

The presence of volatile oils with possible carminative or antispasmodic activity is likely to account for the use of the closely related Lamiaceae and Verbenaceae and other aromatic families for coughs, colds, influenza and digestive disorders.

The snake bite cures are interesting. Many are known to be either toxic or else closely related to known toxic species, notably from families where cardioactive toxins (Melianthaceae, Loganiaceae, Apocynaceae and Asclepiadaceae) or alkaloids (Phytolaccaceae, Solanaceae and Asteraceae) are known or else from families where cytotoxic activity has been observed (Euphorbiaceae and Thymelaeaceae).

More fieldwork will undoubtedly reveal new usage of plants as the practice of herbal medicine is still very much alive. Patterns obviously exist in the usage of plants, but the perception thereof is influenced by the way in which the data are analysed and on the cultural

TABLE 1.—Medicinal usage in pteridophytes, gymnosperms, monocotyledons and dicotyledons

Group	Gen.	Spp.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
Pterid.	7	9	1	1	3	6	1	2	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	
Gymnosp.	2	3	1	1	3	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Monocot.	79	173	30	21	7	25	10	56	9	2	3	19	17	5	5	30	9	1	12	6	8	1	65	1	65	17	
Dicot.	345	609	78	23	28	50	12	255	35	56	28	123	103	37	16	102	37	2	31	16	43	87	34	30	20	115	83
Total	433	794	109	45	35	78	22	318	44	58	31	144	123	44	21	133	46	2	32	16	44	100	40	38	21	182	102

A-Y: see key to list of medicinal plants.

TABLE 2.—Monocotyledons: families with more than 10 medicinally used species

No. spp.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	
Liliaceae	60	11	3	7	12	7	27	3	6	6	2	3	9	7	1	1	4	1	7	1	27	1	27	7	7	
Amaryllidaceae	22	3	3	4	4	5	4	5	2	5	4	2	2	1	1	1	4	1	1	1	1	9	1	9	3	
Iridaceae	25	1	4	2	3	3	11	2	2	2	3	2	5	5	7	1	2	2	2	3	2	1	7	1	8	2
Orchidaceae	34	13	7	2	2	2	2	2	2	2	2	2	7	1	1	1	1	1	1	1	1	1	1	1	18	
Total	141	28	17	7	20	10	44	8	3	13	13	4	3	23	9	1	1	8	4	7	1	62	12	12		

A-Y: see key to list of medicinal plants.

TABLE 3.—Dicotyledons: families with more than 10 medicinally used species

No. spp.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
Crassulaceae	14	1	1	1	1	1	7	19	2	3	12	3	3	1	1	1	1	1	1	3	3	3	3	9	9
Fabaceae	74	13	5	3	1	1	13	3	4	5	8	6	6	4	2	3	3	3	3	11	1	2	10	7	9
Euphorbiaceae	31	5	3	3	1	5	1	1	1	1	5	3	1	4	2	3	3	3	3	7	3	2	1	7	5
Apiaceae	11	4	1	2	2	2	7	1	1	1	1	1	1	8	2	1	1	1	1	1	2	1	1	6	1
Asclepiadaceae	28	1	1	1	1	1	5	2	2	2	5	2	2	1	2	1	1	1	1	2	3	2	1	15	6
Verbenaceae	10	2	1	1	1	1	8	1	2	2	5	10	2	2	1	2	1	2	2	2	3	2	1	1	1
Lamiaceae	21	2	1	3	1	5	1	2	2	2	1	2	1	2	1	2	1	2	2	5	2	9	2	1	5
Solanaceae	15	1	3	1	4	4	1	1	1	1	1	1	1	3	2	1	1	1	1	2	1	1	1	1	2
Scrophulariaceae	12	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	4	4
Acanthaceae	12	4	3	1	2	1	1	12	3	1	4	5	2	2	1	1	1	1	2	2	4	2	2	1	1
Rubiaceae	23	7	3	1	10	40	4	8	3	27	21	6	2	12	2	4	2	1	1	2	1	1	3	3	
Asteraceae	80	4	2	3	10	40	4	8	3	27	21	6	2	12	2	4	2	1	1	15	6	7	3	10	11
Total	331	45	12	12	23	6	126	13	22	14	71	64	23	8	62	14	19	9	20	57	19	21	14	64	41

A-Y: see key to list of medicinal plants.

perceptions of the researcher. Nevertheless, plant usage is patterned, and these patterns deserve further investigation.

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LIST OF ZULU MEDICINAL PLANTS

Key to ailments:	J - Respiratory
A - Sexual	K - Febrile
B - Sterility	L - Headaches
C - Venereal	M - Heart
D - Gynaecological	N - Nervous
E - Newly born infants	O - Pain producing
F - Gastro-intestinal	P - Leprosy
G - Renal	Q - Dental
H - Tonic	R - Sorcery
I - Growths	S - Snake-bite
	T - Skin

U - Sprains, fractures	d - Includes use against diarrhoea
V - Eyes, ears and nose	e - Includes use as an emetic
W - Insecticidal	i - Given to infants or children
X - Charm	p - Taken regularly during pregnancy
Y - Animal	r - Rubbed into scarifications
a - Includes use as anthelmintic	s - Snuffed or inhaled
c - Includes enema administration	t - Toxic

Cyperus sexangularis				Ledebouria cooperi	Dp	Fi	N
Cyperus sp.	B	Fl		Ledebouria ovatifolia*	Dc	Fdc	O
DIOSCOREACEAE				Littonia modesta*	Ae		Ne
Dioscorea diversifolia			N	Myrsiphyllum asparagooides	Ae		V
Dioscorea dregeana	Dp		N	Ornithogalum longibracteatum*			X
Dioscorea duamentorum*			T	Protasparagus sp.		J	
Dioscorea rupicola				Protasparagus virgatus	Ae	C	
Dioscorea sylvatica*				Sandersonia aurantiaca*	Ae		
HYPPOXIDACEAE				Sansevieria hyacinthoides		Fa	
Empodium plicatum		J	N	Scilla natalensis*	Dp	Fi	N
Hypoxis gerrardii	Fd			Scilla nervosa*	Fl	Ic	O
Hypoxis latifolia*	AeB	G	MeNe	Smilax kraussiana	K		R
Hypoxis cooperi		L		Trachyandra gerrardii	Er		U
Hypoxis sp.	Fa		N	Tulbaghia alliacea	F	K	Y
IRIDACEAE				Tulbaghia natalensis	A		Ti
Aristea cognata				Tulbaghia violacea	Ae		X
Aristea ecklonii		Jc Kc		Urginea altissima*	Fc	J	X
Aristea woodii				Urginea daigoensis*	Fc	Me	V
Belamcanda chinensis			N	Urginea macrocentra*		Fa	X
Belamcanda sp.	F			Urginea physodes*	Dp		Y
Crocosmia aurea	Fd			ORCHIDACEAE			
Crocosmia paniculata	B	Fdc		Acrolophia cochlearis	Ae		
Crocosmia pottsii	B	Fdc		Ansellia gigantea	Ae		Ns
Dierama pendulum				Brachycorythis ovata			N
Dieteria iridioides	D	Fdc		Brachycorythis sp.			X
Gladiolus aurantiacus			Ke	Corycium nigrescens			
Gladiolus dalenii*	Ae	Fd	Ks	Cyrtorchis arcuata	Ae		
Gladiolus papilio			Ne	Disa aconitoides	Be		
Gladiolus sericeo-villosus	Bc	Dc	Fdc	Disa polygonoides			N
Gladiolus spp.	E			Disa stachyoides			X
Hesperantha baurii		Je		Disa versicolor			
Hesperantha lactea	F			Eulophia angolensis	Ae		
Hesperantha sp.	F			Eulophia clavicornis 1	B	Dp	
Moraea sp.	Fdc			Eulophia clavicornis 2			X
Moraea spathulata*	B		N	Eulophia clavicornis 3	B		X
Sparaxis grandiflora				Eulophia cucullata	AeB		
Tritonia disticha	E			Eulophia ensata	Ae		
Tritonia lineata	ErFi			Eulophia leontoglossa			
Tritonia sp.				Eulophia ovalis	AeB		Dr
Watsonia densiflora				Eulophia petersii			X
LILIACEAE				Eulophia sp.			
Agapanthus africanus*	Ae	DpE	Je	Eulophia speciosa			
Agapanthus praecox	A	D	MeNe	Eulophia tenella	B	Dp	Nc
Albuca spp.*	C	Fa		Eulophia welwitschii	Ae		
Aloe arborescens	D			Habenaria dives			R
Aloe candelabrum	E	Fi		Habenaria dregeana			
Aloe cooperi	Dp			Habenaria epipactidea		Fe	Nr
Aloe ferox				Habenaria sp.	B		
Aloe gracilis				Mystacidium millarii	Ae		
Aloe maculata	Fc		Kic	Mystacidium venosum	Ae		
Aloe marlothii	E	Fia		Oeceolades mackenii	Ae		
Aloe sessiliflora	E	Fi		Polystachya ottoniana	A		
Aloe sp.	B	D		Satyrion bracteatum		Fa	
Aloe spectabilis		E		Satyrion longicauda			
Aloe tenuior		Fa		Satyrion parviflorum	Ae		
Aloe thraskii		E		POACEAE			
Bernhia reticulata	Ae			Coxa lacryma-jobi			
Bowiea volubilis*	Ae	Dp F G	L	Cymbopogon marginatus		J	
Bulbine alooides	C			Cymbopogon excavatus	Fa		
Bulbine frutescens			O	Cymbopogon validus	F		
Bulbine latifolia	Cc	FdG		Eragrostis plana	Fe	K	
Bulbine sp.	F			Imperata cylindrica	B	H	U
Chlorophytum modestum*				Setaria megaphylla	F	K	
Dipcadi brevifolium*			M				U
Dipcadi sp.				TYPHACEAE			
Dipcadi viride	C			Typha capensis	C	Dp	
Drimia robusta*			Kc				
Drimia maculata		Fl		ZINGIBERACEAE			
Eriospermum mackenii				Kaempferia sp.		J	
Eriospermum sp.*	B	Fe		Siphonochilus aethiopicus		N	
Eucomis autumnalis*	C	Dp F G	JeKc	Siphonochilus natalensis		J	
Eucomis comosa			Oc			K	
Eucomis sp.	F		O Qic	ANGIOSPERMAE - DICOTYLEDONAE			
Gasteria croucheri			O	ACANTHACEAE			
Gloriosa superba*	AeB		N	Adhatoda densiflora		Fe	
Haworthia limifolia	F		Ne	Barleria ovata	Ae	Hc	
Kniphofia buchananii				Blepharis capensis*			
Kniphofia laxiflora		J		Crabbea hirsuta			Sr
Kniphofia parviflora				Crabbea nana			
Kniphofia rooperi		J		Hypoestes aristata			S
Kniphofia uvaria	Dc			Justicia flava		J	

<i>Peristrophe hensii</i>		V	<i>Sisyranthus trichostomus</i>		Ne	
<i>Thunbergia atriplicifolia</i>	E	T	<i>Stapelia gigantea</i>		NeOr	U
<i>Thunbergia dregeana</i>	A	T	<i>Tylophora flanaganii</i>	F		X
<i>Thunbergia natalensis</i>	Ae		<i>Kyselalobium involucratum</i>			X
<i>Thunbergia venosa</i>	Ae	N	<i>Kyselalobium sp.</i>			Y
			<i>Kyselalobium undulatum</i>	F H	Ls Ne	T
AIZOACEAE						
<i>Aizoon canariense</i>	Fe					
<i>Corbichonia decumbens</i>	Fe					
			ASTERACEAE			
			<i>Achyrocline stenoptera</i>			
			<i>Adenostoma caffrum</i>	Ae	Fi K	
			<i>Artemesia afra</i>		F H Ks	
			<i>Aspilia natalensis</i>	C	Fde JeKc	T
			<i>Aster bakeranus*</i>		FiG JKL N	ST Vs X
			<i>Aster serrulatus</i>		F N	
			<i>Aster spp.</i>		L	
			<i>Athrixia phyllocoidea</i>	F H J		
			<i>Berkheyia rhapontica</i>	J		
			<i>Berkheyia seminivea</i>	Fe		
			<i>Berkheyia sp.</i>	6 He		T U V
			<i>Berkheyia speciosa</i>	FcG		V
			<i>Berkheyia subulata</i>	Fi		V
			<i>Bidens pilosa</i>	Fcdr		
			<i>Blumea alata</i>	F		
			<i>Brachylaena discolor</i>	B Dp	Fa H J	N
			<i>Brachylaena elliptica</i>	Dp	Fe Je	NO Q
			<i>Callilepis laureola*</i>	Fa		Ni S
			<i>Conzya podoccephala</i>		J K	T
			<i>Conzya scabrida</i>		JrKc	R Ur X
			<i>Conzya ulrifolia</i>		J	
			<i>Cotula anthemoides</i>	Fi	K	
			<i>Crassocephalum rubens</i>	Fe		
			<i>Dicoma anomala</i>	D Fad	Hie J	
			<i>Dicoma sp.</i>	J		
			<i>Dicoma speciosa</i>	J		
			<i>Dicoma zeyheri</i>	J		
			<i>Eclipta prostrata*</i>	Ae		
			<i>Ethulia conyzoides</i>		Fa	
			<i>Felicia erigeroides</i>		Fac	
			<i>Gazania rigens</i>	Ae		
			<i>Gerbera ambigua</i>		Fa J	
			<i>Gerbera piloselloides</i>	Fa	J Ks	V
			<i>Helichrysum cooperi</i>			
			<i>Helichrysum decorum</i>			
			<i>Helichrysum foetidum</i>	D		
			<i>Helichrysum nudifolium</i>	Fi	JeKs Ns	T U
			<i>Helichrysum oxyphyllum</i>			
			<i>Helichrysum pedunculatum</i>		J K	T
			<i>Helichrysum pilosellum</i>	Fi		
			<i>Helichrysum spp.</i>	D F		
			<i>Matricaria nigellifolia*</i>		K	
			<i>Melanthera scandens</i>	Fe		
			<i>Microglossa despilifolia</i>		I K	
			<i>Mikania capensis</i>	D G	K Ls	T Y
			<i>Mikania natalensis</i>	C G	Ls	T Y
			<i>Micromeria sp.</i>			
			<i>Osteospermum grandidentatum</i>	Fe		
			<i>Osteospermum lebbeckatum</i>	Fe	Xe	
			<i>Osteospermum jucundum</i>	F		
			<i>Osteospermum scariosum</i>	Fe		
			<i>Othonna natalensis</i>	Fa H		
			<i>Pentzia pilulifera</i>			
			<i>Phymaspernum acerosum</i>			
			<i>Platycarpus glomerata</i>			
			<i>Printzia pyrifolia*</i>	D F	Ic N	
			<i>Pulicaria scabra</i>	D H I K		
			<i>Schistostephium hippifolium</i>		K	
			<i>Senecio bupleuroides*</i>	Dp J	M	
			<i>Senecio erubescens</i>	Fc JK		
			<i>Senecio inornatus</i>		J M	
			<i>Senecio lanceus</i>	Dp		
			<i>Senecio oxyriifolius</i>		K Nr	
			<i>Senecio quinquelobus</i>	F J Kc		
			<i>Senecio serruloides*</i>	H J	G T	
			<i>Senecio sp.</i>	C Jce		
			<i>Senecio speciosus</i>	Gr Jr Ls		
			<i>Senecio tamoides</i>	Fc		
			<i>Spilanthes mauritiana</i>			
			<i>Ursinia anthemoides</i>			
			<i>Ursinia sp.</i>			
			<i>Ursinia tenuiloba</i>		J	
			<i>Vernonia addensis</i>	F J Kcr		
			<i>Vernonia angulifolia</i>	Fc		
			<i>Vernonia hirsuta</i>	F J Ls		
			<i>Vernonia mespilifolia</i>	Ae		
			<i>Vernonia natalensis</i>			
			<i>Vernonia neopurpurea</i>	Dp F	N	

Vernonia oligocephala	Fc		I	Turbina oblongata				X
Vernonia sp.	F							
BALANITACEAE				CRASSULACEAE				
Balanites caeghamii	N		I	Cotyledon orbiculata*	Cc		Q	T U V X
BALANOPHORACEAE				Crassula alba	Fde	Ks		
Sarcophyte sanguinea	Fd I			Crassula barbata	Fe			
BALSAMINACEAE				Crassula depends				
Impatiens hochstetteri			T	Crassula multicava	Fe			
BEGONIACEAE				Crassula orbicularis	Fe			
Begonia sp.	Fc Je		I	Crassula sarcocaulis	Fe			
Begonia sutherlandii	Fe			Crassula sp.				
BIGNONIACEAE				Crassula vaginata	Ae		U	X
Kigelia africana*	F		I	Kalanchoe crenata			U	X
BORAGINACEAE				Kalanchoe nr. paniculata				
Cynoglossum hispidum	Ae F		N	Kalanchoe rotundifolia*	Fe			
Myosotis afropalustris				Kalanchoe sp.			V	X
BRASSICACEAE				Kalanchoe thyrsiflora*	Dp Fac		V	X
Helophilus subulata				CUCURBITACEAE				
Lepidium capense	J		I	Coccinia palmata	Fc			
Lepidium pinnatum	J			Cucumis africanus*				
Lepidium schinzii	C J			Cucumis hirsutus*	F	Jc		
Lepidium sp.	C			Cucumis myriocarpus*	A			
CACTACEAE				Cucumis sp.*	F			
Rhipsalis baccifera	Je			Gerrardanthus macrorhizus				
CAMPANULACEAE				Lagenaria sphaerica*	Fc H I			
Wahlenbergia grandiflora	N		Y	Momordica balsamina*	F			
Wahlenbergia sp.	Fi			Momordica foetida	F H			
Wahlenbergia undulata	Fe		V I	CUNONIACEAE				
CAMELLIACEAE				Cunonia capensis			N	
Warburgia salutaris	Fc G JsKec		T U	DIPSACAEAE				
CANNABACEAE				Cephalaria attenuata				
Cannabis sativa	Ds E	J		Cephalaria zeyheriana		Ki N		X
CAPPARACEAE				Scabiosa columbaria	Ae D	H I O		
Cadaba natalensis				EBENACEAE				
Capparis brassii	Ae	Je Ne	R	Diospyros pallens	Fd			
Capparis tomentosa*	B	H I Jes Lr	N	Diospyros villosa	Fc	O	Ur	
Cleome monophylla	Ae		S U	Diospyros mhyteana*	Dc			
CELASTRACEAE				Euclea crispa*	D Fc J	N O		
Cassine aethiopica	Fdc		Y	Euclea divinorum	F			
Cassine crocea*	Fe			Euclea natalensis*	C Fc Gc H IsJr			
Cassine sp.	Ji			Euclea schimperi	D			
Cassine transvaalensis	Fce K			Euclea sp.	Cp Fc	Je L		
Catha edulis*	F			Euclea undulata				
Maytenus heterophylla*	Fde Jr		S U	EUPHORBIACEAE				
Maytenus spp.	Fc J		Y	Acalypha peduncularis		H Je		
Pterocelastrus rostratus	Dr			Acalypha punctata		Je		
Salacia leptoclada	A			Acalypha sp.		Ls		
CHENOPodiaceae				Andrachne ovalis*		Je Ls	Se	X
Chenopodium album*	Fa	J	T M Y	Andrachne sp.			S	
Chenopodium ambrosioides*	F		W Y	Antidesma venosum*	Ae			
CLusiaceae				Bridelia cathartica	Fcd			
Hypericum aethiopicum*	C D F Gc		T V	Bridelia micrantha*	Fe Jr	N R		
COMBRETACEAE				Cavacoa aurea	K O			
Combretum apiculatum	Fc			Clutia affinis	F			
Combretum caffrum				Clutia heterophylla	Ae			
Combretum erythrophyllum*			I Y	Clutia hirsuta	Fc H K		X Y	
Combretum hereroense	Fc			Clutia platyphylla	F			
Terminalia phanerophlebia	Jr Ne	R		Clutia pulchella*	E Fdi L			
Terminalia sericea*	Jr Ne	R		Clutia sp.*		O S	Ur	X Y
CONVOLVULACEAE				Croton gratissimum*	Ae D F Gr Ir Jr Kce	N Q	U	
Convolvulus farinosus	Fe			Croton sylvaticus*	A D F Gr Ir Jr Kce			
Ipomea ficifolia	F		S	Euphorbia bupleurifolia	Fe Ir			
Ipomea carica*	F K Ne			Euphorbia ingens*	F I			
Ipomea congesta	F			Euphorbia nr. woodii	D			
Ipomea crassipes	Fds			Jatropha hirsuta		Kc		
Ipomea purpurea	C F He		Y	Jatropha zeyheri	H			
Merremia tridentata	F			Margaritaria discoidea*	Ae			
				Monadenium lugardae*	F	N		
				Phyllanthus meyerianus		J K L		
				Phyllanthus reticulatus		N		
				Ricinus communis*	Fc	Q T		
				Spirostachys africana*	F	Ls	T1 Vs	
				Synadenium cupulare*	J Ls	Q R		
				Tragia meyeriana	G			
				FABACEAE				
				Abrus precatorius*	Ae	J		
				Acacia caffra	Ae	Fl He		

Acacia gerrardii			Mes		Sebaea grandis	Ae		
Acacia karroo	Fdi	J	Me		Sebaea sedoides	Ae	Fi	
Acacia nilotica			Oc	T	Sebaea sp.	Ae		
Acacia rehmanniana		Ke						
Acacia xanthophloea					GERANIACEAE			
Afzelia quanzensis				T	Geranium ornithopodon			
Albizia adianthifolia*	Ae	F		T	Monsonia emarginata		JsKi	
Albizia forbesii			N	V	Pelargonium luridum	Fd		S Y
Albizia sp.		Kc			Pelargonium sidifolium	Fd		X Y
Albizia sulensis*		Kc	N		Pelargonium spp.	Fd	J K	X Y
Alysicarpus rugosus		JeKe						
Argyrolobium sp.				T	GESNERIACEAE			
Argyrolobium marginatum	F				Streptocarpus prolixus	D		Y
Argyrolobium natalense	Ae				Streptocarpus sp.			
Argyrolobium speciosum	Be							
Argyrolobium stipulaceum				S	GREYIACEAE			
Argyrolobium tomentosum			Ne		Greyia sutherlandii	Fe		
Calpurnia aurea				T				
Calpurnia villosa				M Y	HALORAGACEAE			
Cassia floribunda				X	Gunnera perpensa	B Dp G	K	
Cassia italica*		JK						Y
Cassia mimosoides	Fd		N	T	ICACINACEAE			
Cassia occidentalis*	F		N O	S	Apodytes dimidiata			
Cassia sp.				W X	Pyrenacantha grandiflora	Ae	Fa	N
Crotalaria lanceolata*				X	Pyrenacantha scandens	A B Dp		X Y
Crotalaria sp.*	J							
Dalbergia obovata	Ae			Qi S	ILLECEBRACEAE			
Dialium schlechteri				T	Dianthus crenatus	Ae		
Dichrostachys cinerea			Or		Pollinchia campestris		Js	
Elephantorrhiza elephantina* Ae C	Fdc	J Ke		T	Silene bellidioides	Ae		
Elephantorrhiza sp.*		Mer			Silene burchellii	Ae		
Entada spicata	Cr		MeNe	T				
Eriosema cordatum	A B			Y	LAMIACEAE			
Eriosema distinctum	B	G			Becium khyeanum			
Eriosema salignum	B				Becium obovatum			T
Erythrina caffra*	C	G		V	Leonotis leonurus	Fi	JcK Ls	Se Y
Erythrophleum lasianthue*	F	KsLs N	R	Y	Leonotis ocymifolia	Fd	K	
Indigofera cylindrica	Fa				Leucas martinicensis	F	Ki	
Indigofera eriocarpa	Fd				Mentha aquatica		K	
Indigofera hilaris*	Fd				Mentha longifolia		J KcL	
Indigofera micrantha	Fd				Plectranthus ambiguus		K	
Indigofera spp.	Fd	J K	N	I	Plectranthus hadiensis	Fc		M Y
Indigofera tenuissima*		J			Plectranthus laxiflorus	Fc	Kc	Q
Indigofera velutina	Fd				Plectranthus madagascariensis	Fc	J	T
Lonchocarpus capassa*	Fd				Plectranthus sp.		K	
Lotus discolor		J			Plectranthus sp.		K	
Macrotyliea axillare				Y	Plectranthus sp.		J	
Millettia grandis			Ns		Pycnostachys reticulata		Q	
Mundulea sericea*			Ne		Salvia scabra		E	
Newtonia hildebrandtii			N		Stachys nigricans	Ae		
Ornithocarpum trichocarpum			Ne		Syncolostemon densiflorus	Ae		
Peltorphorum africanum	Bc				Syncolostemon parviflorus		Fi He	
Psoralea pinnata					Tetradenia riparia	F G	JeK	
Rhynchosia nervosa	Ae				Teucrium kraussii	H		Se
Rhynchosia sp.	A	L						
Schotia brachypetala	Fd He				LAURACEAE			
Sphenostylis angustifolia	Fe He				Cryptocarya latifolia		J	
Tephrosia capensis*	Fe	LsM N			Ocotea bullata	G	Ls Or	U
Tephrosia densiflora*				M				
Tephrosia difusa*				T M	LECYTHIDACEAE			
Tephrosia elongata	Fe				Barringtonia racemosa*			
Tephrosia grandiflora		Je		M			Ke	
Tephrosia kraussiana		J						
Tephrosia lurida	Ae				LENTIBULARIACEAE			
Tephrosia macropoda*		JK		I	Utricularia livida			
Tephrosia purpurea*				M Y	Utricularia prehensilis	Ae	Fi	
Tephrosia toxicaria*				M				
Tephrosia vogelii				M	LINACEAE			
Vigna luteola	Ae		Ke		Linum thunbergii		He	O S
Vigna unguiculata	Ae		Ke					X Y
Vigna vexillata	Ae		Ke		LOBELIACEAE			
Zornia capensis					Cyphia elata			
FLACOURTIACEAE					Lobelia coronopifolia	D	Fe	
Dovyalis rhoifolia		K			Lobelia erinus		Ks	
Gerrardina foliosa	Dp	K L N			Lobelia patula		Qi	
Homalium dentatum	F				Monopsis decipiens		K	
Trimeria grandifolia	Fc				Monopsis scabra		K	
Iylotheca kraussiana	Ae							
GENTIANACEAE					LOGANIACEAE			
Chironia purpurascens	F				Buddleia salviifolia*			
Sebaea bojeri	Ae				Muzia floribunda			
Sebaea crassulifolia	Fd		S		Muzia oppositifolia	A		
					Strychnos decussata	D Fa	K	
					Strychnos henningsii*		D	
					Strychnos spinosa		Ke	Se V

LORANTHACEAE				Mondia whitei	F	H
Erianthemum dregei	Fi			Raphionacme sp.	Fa	I
				Tacazzea apiculata	H	K
MALPIGHIAEAE						
Acridocarpus natalitius		N		PHYTOLACCACEAE		
				Phytolacca americana*	Bc	Fe
				Phytolacca dodeandra*	6	I
				Phytolacca heptandra*	F	J
				Phytolacca octandra*	Gc	Ke
MALVACEAE						
Hibiscus aethiopicus	F		U			
Hibiscus pedunculatus	G					
Hibiscus pusillus	Ae	Ne		PITTOSPORACEAE		
Hibiscus surattensis	C	G		Pittosporum viridisflorum		
Sida dregei			T		Fce	H
Thespesia acutiloba					Ke	N Oc
MELASTOMATACEAE				PLANTAGINACEAE		
Dissotis canescens	Fd			Plantago major		Dp E
					Fd	
MELIACEAE				PLUMBAGINACEAE		
Ekebergia capensis	Ae	Fae H J	Ne	Plumbago auriculata*		Ls Ne
Trichilia dregeana		Fcd	O			Ur
Trichilia emetica*		FdGc	Oc	POLYGALACEAE		
Turraea floribunda*		Ge	MeNeDe	Polygala fruticosa		Dp
Turraea obtusifolia*		Fce		Polygala galpinii	Ae	6 H Isd
				Polygala hottentotta		
				Polygala serpentaria	Ae	Fc
				Polygala sp.		Fi
				Polygala virgata		J
						He
MELIANTHACEAE				POLYGONACEAE		
Bersama lucens*	B D		P	Eex australis		Fc
Melianthus comosus*	F H	O	S T U V	Oxygonum dregeanum		Fe
Melianthus dregeanus*	F H		S	Polygonum lapathifolium	C	
MENISPERMACEAE				Polygonum salicifolium		
Cissampelos mucronata				Rumex lanceolatus	B D	FaidH
Cissampelos sp.	Dp			Rumex sagittatus	F	J K Ls
Cissampelos torulosa	C	Ic	Q		D	O Q
Stephania abyssinica		H				
MESEMBRYANTHEMACEAE				PORTRULACACEAE		
Aptenia cordifolia	Ae	Fic	Nr	Portulaca quadrifida		Ls
Carpobrotus edulis		Fig	J	Talinum caffrum	Fe	
Delosperma velutinum		Fe			Fci	Je
Mesembryanthemum sp.		Fce	Ir			N
MORACEAE				PTAEROXYLACEAE		
Ficus ingens		H		Ptaeroxylum obliquum*	Es	
Ficus natalensis	Dp					
Ficus sur		J		RANUNCULACEAE		
Ficus sp.		H		Anemone caffra		
MYRICACEAE				Clematis brachiata	C	Fce
Myrica serrata	D	J K L		Knowitzia anemonoides	Fac	K Ls
				Ranunculus multifidus*	C	Ls
				Ranunculus sp.	E Fd G I J	Ls
				Thalictrum rhynchocarpum		Ls
MYRSINACEAE						
Eabelia ruinata*	Ae	Fa H		RHAMNACEAE		
Maesa alnifolia		Fa		Berchemia discolor		
Maesa lanceolata*		Fae		Berchemia zeyheri		
Maesa sp.		Fa		Helinus integrifolius	Ae	Fdi
Rapanea melanophloeos		Fec	J M	Rhamnus prinoides		Dc
				Ziziphus mucronata	H J	Me
					I Je	
					O Q	
					T U	
MYRTACEAE				ROSACEAE		
Eucalyptus sp.			Ks	Agrimonie eupatoria	Fa	J
Eugenia albanensis	Fd			Leucosidea sericea	Fa	
Heteropyxis natalensis				Prunus africana*		
Syzygium cordatum*	Fe	J		Rubus ludwigii	F	R
Syzygium gerrardii		J		Rubus pinnatus	J	O
				Rubus rigidus	Fd	V
OCHNACEAE						
Ochna natalitia	B			RUBIACEAE		
Ochna serrulata		Fc		Agathisantheum bojeri	Ae	
OLEACEAE				Burchellia bubalina		
Jasminum multipartitum	Ae			Canthium ciliatum	Ae	
Jasminum sp.*		Fc		Canthium inerme		
Olea europaea		G J L		Catunaregam spinosa*	B	
				Coddia rufis	Ae	
				Conostomium natalense		
				Gardenia cornuta		
				Gardenia ternifolia		
				Gardenia thunbergia		
				Gardenia volkensii		
				Hyperacanthus amoenus		
PASSIFLORACEAE				Kohautia amathylobica	AeB	
Adenia quiniflora*		Fe H	Ke M	Lagynias lasiantha	E	Hi
Basananthe sandersonii	A		P	Oldenlandia affinis	Fd	
PEDALIACEAE				Oldenlandia corymbosa	Ae	J
Ceratotheca triloba	D F			Oldenlandia sp.	Ae	M
PERIPLOCACEAE				Pavetta spp.		N

	C	Dp	Fc	H	I	J	K	M	N	O	S	T	U		Withania somnifera*	C	F1	I	J	K1	Nc	T	Y		
Pentanisia prunelloides																									
Pentodus pentandrus																									
Psychotria capensis																									
Rubia cordifolia	AeB	D	F		J			M	N	Q			X		STERCULIACEAE										
Spermacoce natalensis			Fd		J			M	N		T			X	Dombeya rotundifolia	Ae	Fc								
															Hermannia depressa		Fd		J	M	N				
															Hermannia grandistipula										
RUTACEAE																									
Calodendrum capense															X	THYMELAEACEAE									
Clausena anisata			EsFac			Ki		M	N	Od						Gnidia anthylloides*									
Vepris undulata						F									X	Gnidia calocephala									
Zanthoxylum capense	B		Fac	H	Is	Je		Or	Q	S	T				X	Gnidia cuneata									
Zanthoxylum davyi				H	J	K									X	Gnidia kraussiana*		Dp	Fc	H	Kc	Q	S	T	
																Gnidia polyantha	Ae		J		O		S		
																Gnidia spp.			H				S	T	
SALVADORACEAE																							V		
Azima tetracantha																									
SANTALACEAE																									
Osyridicarpos schimperiatus															X										
SAPINDACEAE																									
Cardiospermum halicacabum*	C		Fdc	H	Js						T				X	Corchorus asplenifolius	A								
Deinbollia oblongifolia			Fd													Grewia caffra		D	6c						
Hippobromus pauciflorus*	Ae		Fd			Ls	N				V				X	Grewia occidentalis									
																Triumfetta pilosa									
																Triumfetta rhomboidea		Dp							
SAPOTACEAE																									
Sideroxylon inerme																									
SCROPHULARIACEAE																									
Buchnera dura	Ae														X	ULMACEAE									
Cynium racemosum		D														Chaetacme aristata*									
Cynium tubulosum	Ae														X	Trema orientalis		F							
Graderia scabra	Aes	D	Fc		K						T				X	URTICACEAE									
Halleria lucida															X	Laportea grossa									
Harveya speciosa		F			N						V				X	Laportea peduncularis									
Manulea parviflora		Fi									U				X	Pouzolzia mixta									
Peliostomum calycinum		Fi		K							T				X	Urtica urens	B								
Sutera floribunda	D			J												VERBENACEAE									
Sutera kraussiana	D															Clerodendrum glabrum		Fa		J	K				
Sutera sp.																Clerodendrum hirsutum		Fa	I						
Zaluzianskya maritima	Ae															Clerodendrum myricoides									
																Clerodendrum suffruticosum									
SELAGINACEAE																Clerodendrum triphyllum		Dp	6c	I					
Hebenstretia sp.															X	Lantana rugosa		Fi	J						
Selago sp.															X	Lippia javanica		F	J	K					
Tetraselago natalensis	C														X	Friva cordifolia									
																Vitex rehmannii		Fc	J		N				
																Vitex villosissima		J			MeGc				
SOLANACEAE																									
Datura metel*																	VIOLACEAE								
Datura stramonium*																	Hybanthus enneaspermus								
Physalis peruviana*																	Hybanthus sp.	Ae							
Solanum sp.*	B		Fi																						
Solanum acanthoides			F														VISCACEAE								
Solanum aculeastrum*																	Viscum sp.								
Solanum aculeatissimum*																									
Solanum capense	C	G															CITACEAE								
Solanum giganteum				J													Cissus quadrangularis								
Solanum incanum*																	Cyphostemma hypoleucum								
Solanum mauritianum*		Fe															Cyphostemma lanigerum								
Solanum nigrum*		Fi															Cyphostemma natalitium								
Solanum panduriforme																	Rhoicissus tomentosa*	Dp							
Solanum tomentosum	C																Rhoicissus tridentata*	B	Dp		K				