

## Medicinal plants and traditional practices of *Xhosa* people in the Transkei region of Eastern Cape, South Africa

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An ethnobotanical survey was carried out in the former Transkei homeland to document the unwritten knowledge related to traditional uses of medicinal plants. The indigenous people of Transkei, Eastern Cape, South Africa depend on the natural plant resources from their environment for medicine, food, pastoral, cultural and religious needs. This area, mainly inhabited by the *Xhosa* people, has remained ethnobotanically unexplored until recently. The present investigation among the herbalist, traditional doctors, herb traders, tribal priests and other knowledgeable local people documented medicinal and other uses of 35 species of traditional medicinal plants belonging to 34 genera and 26 families. The study recorded the local, scientific and family names of the medicinal plants. The plant parts used and method of administration are also presented in this paper. This firsthand information points out the importance of local flora to tribal groups and non-tribal people of Transkei. In spite of western influence, the *Xhosa* people of Transkei still believe in the efficacy of herbal medicine, and prefer to use these traditional remedies. Further, scientific study will be required for validation of these ethnomedicines.

**Keywords:** Ethnomedicine, Medicinal plants, South Africa, Traditional systems, Transkei, *Xhosa*

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Plants have played a great role in the history of humankind<sup>1</sup>. The *Xhosas* are the major group inhabitants of the former Transkei region of the Eastern Cape of South Africa which is one of the poorest regions of South Africa. For many years, the people of Transkei had no contact with the Western world and they relied mainly on the traditional knowledge they had of medicinal plants to meet their requirements. In recent years, with the establishment of modern medicine in Transkei, the *Xhosas* still believe in the efficacy of herbal medicines and prefer to use traditional remedies. Even today about 80% of world population do not have the access to the modern medicine and depend mainly upon the herbal remedies for their needs<sup>2</sup>.

The *Xhosa* speaking people of Transkei use a wide range of remedies to treat diseases and illnesses. During the present investigation a number of plants and plant materials have been collected and identified. These phytochemicals are known as *imithi* (singular *umthi*) and include remedies derived from trees, shrubs, herbs, leaves, barks, bulbs and roots. The elderly people, herbalists and traditional healers have much knowledge about medicinal plants and

phytochemicals. The mothers and grandmothers are more knowledgeable about medicinal plants and their therapeutic values. The grandmothers generally collect the plants and prepare the medicines for their daughters and their daughter-in laws. These remedies are mainly concerned with pregnant women, maternal and child health like *Agapanthus* sp., *Chlorophytum comosum* (Thunb.) Jacq. and *Salvia scabra* L. f., all locally known as Isicakathi<sup>3</sup>. Transkei region has got a large number of plant biodiversity which vary in their ethnobotanical value. Indigenous plants have played a great role in the daily lives of the local people in Transkei and there are several reports on their use<sup>3-13</sup>. In spite of all these previous work done, there are still a number of plants have yet to be investigated and documented. Thus the need for this project is raised with a view to examine closely into the medicinal plants and traditional systems of *Xhosa* people in the Transkei region of Eastern Cape (South Africa). The investigation is a part of an ongoing effort to study and document the traditional knowledge and usage of medicinal plants of Transkei region. The present documentation of the traditional knowledge of plants will help us evaluate the

dynamics of the biodiversity of this region and facilitate the conservation of medicinal plants for the future studies.

### Methodology

The investigation was carried out in 15 districts of Transkei during different seasons for a period of 3 yrs (2007-2010). The Transkei region coordinates are 31° 44' 39.22" S 28° 39' 57.88" E. The Transkei consists of a total area covering 45,000 km<sup>2</sup>. The majority of the population is *Xhosa* speaking. The total population of the Transkei estimate of 1982 puts the number at about 2.3 million (<http://en.wikipedia.org/wiki/Transkei>).

During each visit, plants were collected from different parts of the regions, a detailed field notes were taken on the medicinal plants and uses of phytomedicines, following the suggestions of Croom<sup>14</sup>, Bhat<sup>15</sup> and Martin<sup>16</sup>. The information was obtained through a series of interviews with elderly villagers, rural and urban people, traditional doctors and herbalists. Traditional medical practitioners do not have organized controlled environment like hospitals do. As a result, it was not possible to record the response to the drug therapy as patients were not easily and readily available for the interviews at the time of documentation. The plant specimens were collected using standard procedures and identification of the plants was done with the aid of floristic and related works of southern Africa<sup>17,18</sup>. The collected specimens were prepared and deposited at the University of Transkei (now Walter Sisulu University) Herbarium, in the Department of Botany. The valid Botanical name with plant authority was verified with the assistance of The Plant List Org.

### Results

The present investigation among the herbalists, traditional doctors, herb traders, tribal priests and other knowledgeable local people recorded medicinal and other uses of 35 plant species. Based on the interviews conducted, it is evident that the knowledge about the use of plants and herbal products is limited mainly to traditional healers, herbalists, traditional doctors and elderly people living in rural areas. The curative art of herbal medicines, however, is limited to a number of families with some sanctity and secrecy. In **Table 1** plant species are alphabetically arranged and the data presented in the following sequence: binomial nomenclature, voucher specimen number, local name in *Xhosa* (X) and English (E),

family, ailment/diseases, plant parts used and information on uses and method of use.

Thirty five medicinal plants used for various ailments were recorded during my present ethnobotanical survey. The diversity of medicinal plants in the botanical groups shows that the most important medicinal families are Asteraceae (7 species), Solanaceae (3 species) and Asparagaceae (2). The medicinal use of leaves is dominated over the roots, barks and stems. Stomach ailment was the one against which a high number of medicinal plants were prescribed, followed by skin, fever, purgative, anti-inflammation, nausea, snake bite, insecticide, TB, eye infection, rheumatism, cancer, etc. *Olea europaea* subsp. *africana* is commonly used for blood pressure, while *Hypoxis hemerocallidea* is a popular herbal remedy for tuberculosis and cancer.

### Discussion

The medicinal plants are mainly used in making infusions and decoctions or poultices to be taken orally or applied externally. Some plants are used as a source of scepters for healing ceremonies and driving away the bad spirits. The traditional *Xhosa* medical practices go far beyond the limits of pure empirical scientific study, 'appeasing the ancestral spirits, *amathongo*, is an integral part of *Xhosa* medicine<sup>19,20</sup>. Recently similar observations have also been made among the *Jah Hut* tribe in Malaysia<sup>21</sup>. According to *Xhosa* healer, it is the 'person' who is ill, not one of his organs. Hence, a medicine given to heal a particular disease has also an esoteric aspect that comforts and strengthens the patient as well<sup>5</sup>. The medicinal plants are also used to treat complicated and major diseases like arthritis, tuberculosis, cancer, bone fracture, etc. However, the treatment of complex diseases is still confined to mostly practicing herbalists or to certain family members of the traditional healers who directly inherit the knowledge from their forefathers. The curative art is always kept with sanctity and some secrecy. It is also believed that the efficacy of phytomedicine will be lost if revealed to other people. It conforms to the study made in other parts of the world<sup>15,19,20</sup>. The knowledge and use of herbal medicines are also linked with supernatural and spiritual powers. Some of the preparations and remedies are followed by rituals such as sacrificing the birds and animals and chanting of incantations. It conforms to the observations made by Bhat *et al.*<sup>15,20,22</sup> and Jain & Borthakur<sup>23</sup>. It is also believed that complex diseases are attributed to the spell of evil

Table 1-Medicinal plants and traditional practices of *Xhosa* people in the Transkei region Eastern Cape (South Africa)

Scientific name & Voucher Number	Local name Xhosa (X), English (E)	Family	Ailment/diseases	Parts and mode of use/uses
1 <i>Acacia mearnsii</i> De Wild.(RBB 164)	idywabasi (X)	Fabaceae	Stomachache	Bark- a small amount of bark is ground, and given with water thrice a day.
2 <i>Acridocarpus natalitius</i> A. Juss. (RBB 292)	Moth-fruit (X), the binder (E)	Malpighiaceae	Skin allergy	Leaves- handful of leaves are used in cold or warm water as body washing and for skin allergy.
3 <i>Acokanthera oppositifolia</i> (Lam.) Codd (RBB 312)	iNtlungunyembe (X), Bushman's Poison (E)	Apocynaceae	Gastric	Leaves- a few washed leaves problems are chewed and the juice is consumed twice a day for a week to cure gastric related problems.
4 <i>Alepidea amatymbica</i> Eckl. & Zeyh. (RBB 68)	Iqwili (X); Larger tinsel (E)	Apiaceae	Fever	Stem- underground stem is grated, boiled with milk and flower used daily twice for a week.
5 <i>Aloe ferox</i> Mill.	iKhala (X); Bitter Aloe, Red Aloe (E)	Asparagaceae	Stomachache Purgative	Leaves-approximately three
6 <i>Aloe arborescens</i> Mill. (RBB 160)	ikalene (X); Krantz aloe(E)	Asparagaceae	Anti- inflammatory Constipation Stomachache Child birth	Leaves- small pieces of leaves are mixed with chicken feed as an anti- inflammatory herb. Two-three spoons of leaf gel is taken orally to cure the constipation and stomach ache. The leaf mucilage is also used in child birth.
7 <i>Artemisia afra</i> Jacq. ex Willd. (RBB 122)	umhlonyane (X) African wormwood , wild wormwood (E)	Asteraceae	Cough Enemas	Leaves- a few leaves are boiled with water and then filtered using a clean cloth. The leaf decoction is given three times a day for a week, cures coughs and asthma. Stem and root based decoction is taken orally for enemas.
8 <i>Bidens pilosa</i> L. (RBB 238)	Inongwe (X), Spanish needles , Black jack (E)	Asteraceae	Arthritis	Leaves- 1/4 a cup of leaf decoction is taken twice a day to cure arthritis. Young leaves and stems are also consumed as a potherb.
9 <i>Capsicum frutescens</i> L. (RBB 108)	Tshilisi (X), Chili (E)	Solanaceae	Fever	Fruit- a fully mature fruit is added to a hot cup of tea and consumed to cure fever.
10 <i>Chenopodium ambrosioides</i> L. (RBB87)	Imbikicane (X); Wild Spinach (E)	Chenopodiaceae	Insecticide	Seeds- crushed seeds are boiled with water and the liquid is used as an insecticide. Young leaves are used as wild vegetable.
11 <i>Gazania krebsiana</i> Less. (RBB 66)	Matlapaneng (X); Terracotta gazania (E)	Asteraceae	Emetic	Leaves- decoction prepared with a handful of leaves taken orally as an emetic.
12 <i>Grewia occidentalis</i> L. (RBB 227)	umNqabaza, Uhlolo (X)	Malvaceae	Childbirth Wound Sterility	Roots- are used for childbirth. Plant- the entire plant is used for treating sterility/impotency. Bark-crushed bark is used for treating wounds.

(Contd.)

Table 1—Medicinal plants and traditional practices of *Xhosa* people in the Transkei region Eastern Cape (South Africa)—(contd.)

Scientific name & Voucher Number	Local name Xhosa (X), English (E)	Family	Ailment/diseases	Parts and mode of use/uses
13 <i>Gunnera perpensa</i> L. (RBB 225)	<i>Iphuzi</i> (X); <i>River pumpkin</i> (E)	Gunneraceae	Menstrual pain Constipation	Roots- a decoction prepared from the roots is used to cure menstrual pain. Stem- the crushed stem is boiled with water and a glass of decoction is drunk to treat constipation.
14 <i>Helichrysum pedunculatum</i> Hilliard & B.L.Burt (RBB 84)	<i>Isicwe</i> (X)	Asteraceae	Circumcision wound	Leaves- used to treat the circumcision wound. Used as dressing after circumcision to prevent serious inflammation.
15 <i>Hypoxis hemerocallidea</i> Fisch., C.A.Mey. & Avé-Lall. (RBB 308)	<i>Ixonyi</i> (X); <i>Star flower</i> (E)	Hypoxidaceae	Tuberculosis Cancer	Root tuber- ½ a glass of prepared from the root tuber is oral given for a period of 4-8 weeks to treat TB and cancer.
16 <i>Hypoestes aristata</i> (Vahl) Sol. ex Roem. & Schult. (RBB 324)	<i>uhlololwane</i> (X); <i>Ribbon Bush</i> (E)	Acanthaceae	Sore eyes	Leaves- leaf juice is used for curing sore eyes. It is also used to treat the broken legs of a calf.
17 <i>Mentha longifolia</i> (L.) L.	<i>Inixina</i> (X); <i>Wild mint</i> (E)	Lamiaceae	High BP Nausea	Leaves- raw leaves are consume like Respiratory salads to cure respiratory ailments and nausea.
18 <i>Nasturtium officinale</i> R.Br. (RBB 81)	<i>Umsobo</i> (X); <i>Watercress</i> (E)	Brassicaceae	Antiseptic	Whole plant- is used as an antiseptic to wash the weeping sores. Also used to remove spots and blemishes from the skin.
19 <i>Nicotiana glauca</i> Graham (RBB 248)	<i>Icuba</i> (X); <i>Wild Tobacco</i> (E)	Solanaceae	Headache	Leaves- the dried leaves are used as fumitory to get rid of headache.
20 <i>Olea europaea</i> L. subsp. <i>africana</i> (Mill.) P.S.Green (RBB 330)	<i>Umnquma</i> (X); <i>Wild olive</i> (E).	Oleaceae	Blood pressure	Leaves and fruits- a decoction prepared from the leaves and fruits is used to treat the blood pressure.
21 <i>Oxalis corniculata</i> L. (RBB175)	<i>Umuncwane</i> (X); <i>Creeping woodsorrel</i> (E)	Oxalidaceae	Stomach	Leave- leaf juice is used as cleaning and as purgative.
22 <i>Pentanisia prunelloides</i> (Klotzsch) Walp.	<i>isigcikamlilo</i> (X); <i>Wild verbena</i> (E)	Rubiaceae	Snakebite Rheumatism	Roots- root juice is used as a remedy for snakebite. Decoction prepared from the root is also used for treating rheumatism.
23 <i>Phytolacca octandra</i> L. (RBB264)	<i>Um-Inki</i> (X), <i>Pokeweed</i> (E).	Phytolaccaceae	Wounds	Fruits- fresh fruit juice is used to and sores cure wounds and sores.
24 <i>Pittosporum viridiflorum</i> Sims (RBB 113)	<i>Pittosporaceae</i> <i>Umkhwenkwe</i> (X); <i>Cheese wood</i> (E)	Fever	Chest	Bark- A ¼ cup of decoction prepared from bark is given orally thrice a day to cure the fever. Root- two spoons of root powder a day for a week is used as aphrodisiac.
25 <i>Plantago lanceolata</i> L. (RBB 255)	<i>Lamb's tongue</i> <i>Ribwort plantain</i> (E)	Plantaginaceae Earache	Headache	Leaves- small leaves are inserted in the nostrils to heal headache. Roots- root juice is used to cure earache.
26 <i>Prunus persica</i> (L.) Stokes (RBB 83)	<i>Ipesika</i> (X); <i>Peach</i> (E)	Rosaceae	Sore eyes	Leaves- handful of leaves boiled in approximately two liters of water, then cooled and filtered liquid is used to treat the sore eyes.

(contd.)

Table 1—Medicinal plants and traditional practices of *Xhosa* people in the Transkei region Eastern Cape (South Africa)—(contd.)

Scientific name & Voucher Number	Local name Xhosa (X), English (E)	Family	Ailment/diseases	Parts and mode of use/uses
27 <i>Ricinus communis</i> L. (RBB166)	<i>Umhlakuva</i> (X); <i>Castor oil plant</i> (E)	Euphorbiaceae	Stomache	Leaves- Fresh leaves are ground and mixed with water. Small quantity (50 ml is given orally to treat the stomach ache. Crushed leaves added with water are also used to wash and cure the boils.
28 <i>Scadoxus puniceus</i> (L.) Friis & Nordal (RBB 253)	<i>Umphompo</i> (X); <i>Paintbrush lily</i> (E)	Amaryllidoideae	Gall-sickness	Leaves- handful of crushed leaves are added to the cattle feed to treat sickness of gall bladder related diseases cattle. Bulb- juice prepared from crushed underground bulb is used to treat the wounds.
29 <i>Schinus molle</i> L. (RBB 115)	<i>Pepper tree</i> (E)	Anacardiaceae	Toothache, Fever	Leaves- a decoction prepared from the leaves is used to gargle to cure toothache. Leaves are also used in steam bath to treat the fever.
30 <i>Solanum aculeastrum</i> Dunal (RBB 97)	<i>Umthuma</i> (X); <i>Bitter-apple</i> (E)	Solanaceae	Impotence, Umbalical cord.	Roots- handful of crushed roots are boiled an approximately two liters of water. The decoction thus prepared is orally taken by males to cure the impotence. Ash made of burnt roots is also used to heal umbilical cord in infants.
31 <i>Sonchus asper</i> (L.) Hill. (RBB 64)	<i>Irhwabe</i> (X); <i>Corky-bark monkey-orange</i> (E)	Asteraceae	Fever stomach ailments	Leaves- a decoction prepared from approximately two glasses of water allowed to stand for an hour and taken orally to cure chronic stomach ache.
32 <i>Strychnos cocculoides</i> Baker (RBB 178)	<i>Umnonono</i> (X); <i>Corky-bark monkey-orange</i> (E).	Loganiaceae	Chronic stomach ailments	Bark-approximately two spoons grated bark is mixed with approximately two glasses of water allowed to stand for an hour and taken orally to cure chronic stomach ache.
33 <i>Symphytum officinale</i> L. (RBB 82)	<i>Comfrey</i> (E)	Boraginaceae	Bone fracture, Bronchitis, Pneumonia.	Leaves- a cup herbal infusion is taken orally twice a day for a period of three to four days to fast cure of bone fracture, and also for bronchitis and pneumonia.
34 <i>Schistostephium rotundifolium</i> (DC.) Fenzl ex Harv. (RBB 323)	<i>Iphungwane</i> (X)	Asteraceae	Fracture	Stem & Leaves- Infusion of the leaves is taken for fast healing of a fracture.
35 <i>Taraxacum officinale</i> Webb (RBB 236)	<i>Ihlaba</i> (X); <i>Dandelion</i> (E)	Asteraceae	Jaundice Liver diseases	Leaves- Infusion made from the fresh leaves is taken to treat jaundice and liver related diseases.

spirits or due to the violation of laws of their gods. So the ultimate purpose of the rituals along with medicinal uses therefore, is to propitiate these gods. Nevertheless, the common and minor ailments are considered to be natural.

It has come to my notice during the field work that the vernacular names and uses of a given plant species may change from one place to another. Therefore, it

was important that the names of the plants and plant specimens were collected from the same area. Long discussions in the field are time consuming though, but it was very useful in collecting correct plant specimens and fewer misunderstandings.

The present study has revealed that the current traditional medicinal practices of the *Xhosa* people can be divided under four categories.

1. Common remedies not followed by rituals, mostly practiced by common people. 2. Considered to be family secrets handed down from generation to generation- Herbalists. 3. Traditional doctors who are in touch with their ancestors and who divine the cause of disease as misfortunes or who acquire the knowledge of medicinal plants and their application from the ancestors in their dreams- called diviners known as 'amgaqirha' in the *Xhosa* language. They are generally women<sup>6</sup>. 4. Traditional doctors who physically diagnose prescribe and sell the medicine for various diseases- True traditional doctors known as 'amaxwele' in the *Xhosa* language<sup>6</sup>. However, the present study paid attention to document the medicinal plant species used for traditional medicine to treat the sick people.

Ethnobotanical work is intended to bring to light the traditional knowledge about plant use and its cultural significance, in order to lead to better ways of natural resource exploitation or to propose their management according to their needs and anthropological characters of the human groups over which it is panned to intercede, as well as to the elements present in their environment<sup>24</sup>. The plant kingdom represents a source of food and medicine. Therefore, with the tendency in modern medicine to assimilate and re-assimilate natural remedies in common practice, under various forms, the potential of regional flora becomes very important<sup>25</sup>. The *Xhosa* people claim a high percentage of efficacy for plant remedies though, further scientific and clinical studies are required to validate this information.

From the perspective of plant diversity, 35 species of medicinal plants in 34 genera and 26 families were identified during the ethnomedicinal surveys. There is widespread use of medicinal plants that are used in stomach ailments, skin care, fever, anti-inflammation, nausea, purgative, etc. The common native species used are *Acacia mearnsii*, *Alepidea amatymbica*, *Aloe ferox*, *Aloe arborescens*, *Artemisia afra*, *Bidens pilosa*, *Gazania krebsiana*, *Grewia occidentalis*, *Helichrysum pedunculatum*, *Mentha longifolia*, *Nicotiana glauca*, *Olea europaea*, *Pentanisia prunelloides*, *Schinus molle*, *Solanum aculeastrum*, *Strychnos cocculoides*, and *Taraxacum officinale*.

The present investigation highlighted the bio-diversity of medicinal plants used by the traditional medical practices among the *Xhosa* community of Transkei region of Eastern Cape, South Africa. Further scientific studies comprising of toxicological, food

security, pharmaceutical, pharmacological and ecological studies are necessary to understand the dynamics and efficacy of traditional medicines. The present study on the use of herbal medicines will add the value of these medicinal plants and traditional practices of natural resources and highlight the significance of plant biodiversity on the healthcare and food security systems. It can also help the community understand their valuable natural resources.

### Conclusion

The present study has documented 35 plant species used as traditional medicines for various ailments/diseases. In spite of modern civilization and access to modern medicine the people of Transkei region still are dependent on the practice of traditional treatment. A great majority of *Xhosa* people strongly believe in their traditional medicine in spite of their educational background. The regional flora becomes very important as it is a great source of food and medicine for common people. The *Xhosa* people claim a high percentage of efficacies for plant remedies though; further scientific and clinical studies are required to validate this information.

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