

# An ethnobotanical study of plants used for the treatment of wounds in the Eastern Cape, South Africa

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## Abstract

The people of the Eastern Cape Province, South Africa, still depend, to a large extent, on traditional herbal medicine for the treatment of various diseases and ailments. This includes the use of plants for the treatment of wounds. Information collected from the traditional healers, the *Sangomas*, has revealed 38 plant species that are used for the treatment of wounds in the Province. The plants belong to 26 families of which Asteraceae, Asphodelaceae and Solanaceae are the most represented. The use of plant leaves as a poultice and infusions are the commonest categories of herbal preparations. In all cases, the treatment of wounds involved the external application of the herbal medicine. © 1999 Elsevier Science Ireland Ltd. All rights reserved.

*Keywords:* Medicinal plants; Traditional medicine; Wounds

## 1. Introduction

Medicinal plants have always played an important role in therapy within the traditional health care system in South Africa. It is estimated that between 12 and 15 million South Africans still use traditional remedies from as many as 700 indigenous plant species (Meyer and Afolayan, 1995). The Eastern Cape province is particularly known for its richness in plant species (Phillipson, 1987). The indigenous people of this Province have a long history of traditional plant usage for the treatment of various diseases and ailments includ-

ing the uses of plants for the treatment of wounds (Van Wyk, et al., 1997; Grierson and Afolayan, 1998).

In the rural communities, wounds arising from bruises, cuts and scratches, amongst others, are sometimes untreated at the initial stages. This is common especially amongst children. In most cases such wounds become septic and inflamed before they are brought to the attention of the parents, who might then treat such wounds in a traditional way using plant materials or seek the advice of a herbalist. Even many adults who are remote from clinics and hospitals often treat wounds using plants or seek the help of herbalists.

Despite the undoubted success of herbal medicine in the Province, the knowledge and ex-

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Table 1  
Medicinal plants used for the treatment of wounds in the Eastern Cape, South Africa

Scientific name	Local name	Part used	Preparation
1. <i>Poultice made from fresh parts</i>			
Apiaceae			
<i>Centella asiatica</i> (L.) Urb.	Udingu	Leaves	Poultice or lotion used to treat wounds
Asphodelaceae			
<i>Aloe striatula</i> Haw.	Ingcelwane	Leaves	Poultice applied to wounds
<i>Bulbine latifolia</i> Mill.	Ibhucu	Leaves	Poultice applied to wounds, burns, rashes and itches
Asteraceae			
<i>Helichrysum foetidum</i> (L.) Moench		Leaves	Warmed and applied as a poultice for infected sores
Cactaceae			
<i>Opuntia ficus-indica</i> Mill.	Itolofiya	Leaves	Heated with blue soap and Epsom salts and applied as a poultice
Crassulaceae			
<i>Cotyledon orbiculata</i> L.	Iphewula	Leaves and cuticle	Poultice applied to wounds, scratches, sores and ulcers
Euphorbiaceae			
<i>Ricinus communis</i> L.	Umhlakuva	Roots and leaves	Poultice applied to wounds and sores
Geraniaceae			
<i>Pelargonium peltatum</i> (L.) Ait.		Leaves	Pounded, applied to wounds and sores
Lamiaceae			
<i>Mentha longifolia</i> (L.) Huds.	Inxina	Leaves	Applied as a poultice to wounds
Malvaceae			
<i>Malva parvifolia</i> L.	Ujongelana	Leaves and stems	Macerated with or without heated brown sugar and applied to boils
Meliaceae			
<i>Ekebergia capensis</i> Sparrm.	Umnyamathi	Bark	Powdered and infused, mixed with flour and applied as a poultice to abscesses and boils
Polygonaceae			
<i>Rumex lanceolatus</i> Thunb.	Idololenkonyane	Leaves and stems	Applied as a poultice to abscesses and boils
Rubiaceae			
<i>Pentanisia prunelloides</i> Walp.	Icimamlilo, Irubuxa	Root	Pounded in hot water and applied as a poultice to draw boils, abscesses and sores
Solanaceae			
<i>Withania somnifera</i> (L.) Dun.	Ubuvuma	Leaves	Poultice used on open cuts, abscesses and wounds
2. <i>Applied directly and sometimes warmed as bandages</i>			
Amaryllidaceae			
<i>Boophane disticha</i> (L.f.) Herb.	Incwadi, Ishwadi	Outer bulb scales	Moistened and applied as a dressing to circumcision wounds, boils, sores and septic wounds
<i>Haemanthus coccineus</i> Jacq.	Umphompo	Leaves	Dressing for wounds, sores and ulcers
Apiaceae			
<i>Centella asiatica</i> (L.) Urb.	Udingu	Leaves	Softened warm leaf applied to sores
Araceae			
<i>Zantedeschia aethiopica</i> (Linn.) Spreng.	Inyiba, Inyibiba, Inyuba	Leaves	Washed and warmed, used for dressing sores, wounds and minor burns
Asphodelaceae			
<i>Aloe ciliaris</i> Harv.	Intelezi, Ikalene	Leaves	Chopped leaves placed on inflamed sore to reduce swelling

Table 1 (continued)

Scientific name	Local name	Part used	Preparation
Asteraceae			
<i>Helichrysum appendiculatum</i> (L.f.) Less.	Indlebeyemvu	Leaves	Fresh leaves applied to circumcision wounds
<i>H. pedunculare</i> DC.	Isigqutsi, Isicwe	Leaves	Fresh leaves applied to circumcision wounds
Cactaceae			
<i>Opuntia ficus-indica</i> Mill.	Itolofiya	Leaves	Dressing for boils
Geraniaceae			
<i>Pelargonium peltatum</i> (L.) Ait.		Leaves	Applied to wounds and sores
Haloragaceae			
<i>Gumera perpensa</i> L.	Ugobho	Leaves	Applied as a dressing for wounds
3. Infusion made from fresh or dried parts			
Asteraceae			
<i>Artemisia afra</i> Jacq. ex Willd.	Umhloniyane	Leaves	Infusion used as a wash for wounds
<i>Helichrysum appendiculatum</i> (L.f.) Less.	Indlebeyemvu	Leaves	Tea from dried leaves applied to circumcision wounds
<i>H. aureonitens</i> Sch.Bip.		Leaves	Infusion used as a wash and lotion for wounds
Cornaceae			
<i>Curtisia dentata</i> (Burm. f.) C.A. Sm.	Umlahleni	Bark	Infusion used for the treatment of pimples
Cucurbitaceae			
<i>Kedrostis africana</i> Medik.	Ilabatheki, Uthuvana	Bulbs	Boiled in water as a wash for skin rash
Lamiaceae			
<i>Leonotis leonuris</i> (L.) R.Br.	Umfincafincane	Twigs, leaves and flowers	Infusion applied to skin eruptions and sores
Loganiaceae			
<i>Buddleja salvifolia</i> (L.) Lam.	Ilotyane	Bark	Infusion used as a wash for sores
Solanaceae			
<i>Solanum nigrum</i> L.	Umsobo-Sobo	Leaves	Infusion used as a wash for wounds
Tiliaceae			
<i>Grewia occidentalis</i> L.	Umnqabaza, Unvileni, Umqaqoba	Small twigs and leaves	Infusion used as a lotion for wounds
Typhaceae			
<i>Typha capensis</i> Rohbr.	Ingcongolo, Umkhanzi	Root and lower stem	Infusion as an external wash for wounds
4. Juice or sap applied to a dressing or directly as a wash			
Asphodelaceae			
<i>Aloe ciliaris</i> Harv.	Intelezi, Ikalene	Leaves	Fresh juice squeezed and applied to rashes and pimples
<i>A. ferox</i> Mill.	Ikhala, Umhlaba	Leaves	Juice applied as dressing for wounds
<i>Bulbine latifolia</i> Mill.	Ibhucu	Leaves	Sap warmed and applied to wounds, burns, rashes and itches
Asteraceae			
<i>Helichrysum pedunculare</i> DC.	Isigqutsi, Isicwe	Leaves	Sap applied to circumcision wounds
Hypoxidaceae			
<i>Hypoxis hemerocallidea</i>	Isidumo, Inongwe	Corms	Sliced, sap extracted and applied to sores
5. Lotion made from fresh or dried parts soaked in warm or cold water			
Apiaceae			
<i>Centella asiatica</i> (L.) Urb.	Udingu	Leaves	Dried leaves soaked in warm water and used as a lotion for wounds

Table 1 (continued)

Scientific name	Local name	Part used	Preparation
Asteraceae			
<i>Vernonia oligocephala</i> Sch.Bip.	Umhlungu-hlunga	Leaves and stems	Dried material soaked in warm water; lotion applied to wounds
Hypoxidaceae			
<i>Hypoxis hemerocallidea</i>	Isidumo, Inongwe	Leaves and corms	Fresh or dried material extracted and used as a wash for wounds
Lamiaceae			
<i>Mentha longifolia</i> (L.) Huds.	Inxina	Leaves	Fresh material extracted in hot water as a lotion for wounds
Rubiaceae			
<i>Pentanisia prunelloides</i> Walp.	Icimamililo, Irubuxa	Root	Dried and ground in warm water to make a lotion and applied to pimples
6. Dried and ground to powder			
Adiantaceae			
<i>Cheilanthes viridis</i> (Forsk.) Swartz		Fronds	Dried, powdered and sprinkled on wounds
Aspidiaceae			
<i>Polystichum pungens</i> (Kaulf.) Presl.		Fronds	Dried and powdered, sprinkled on wounds
Fabaceae			
<i>Erythrina caffra</i> Thunb.	Umsintsisi, Umsintsane	Bark	Finely powdered, applied to sores, abscesses and wounds
Hypoxidaceae			
<i>Hypoxis hemerocallidea</i>	Isidumo, Inongwe	Leaves	Dry powder sprinkled on wounds
7. Ointment made from juice or fresh parts, sometimes mixed with animal fat or oil			
Dipsacaceae			
<i>Scabiosa columbaria</i> L.	Makgha	Roots	Dried and roasted, made into a wound-healing ointment with animal fat
Solanaceae			
<i>Solanum sodomeum</i> Linn.	Umthuma	Fruit and leaves	Paste with oil or fat applied to skin rashes

perience of the traditional healers have not been well documented. Information on herbal medicine, like any other cultural practices in Africa, has been dominated by oral tradition (Van Wyk et al., 1997). In industrialised cultures, there has been an important loss of traditional knowledge of plant uses transmitted from parents to children. According to Raja et al. (1997), there appears to be concern that one is now at a critical moment at which the transmission chain is at risk. It is necessary, therefore, to make an effort to avoid the erosion of this knowledge in South Africa, not only to preserve a part of the cultural heritage, but also to conserve the information on useful plants.

Considering the current rate of deforestation with the concurrent loss of biodiversity (Njuguna,

1994), there is a need for accurate documentation of the knowledge and experience of the traditional herbalists. In this paper we report on the information gathered from traditional healers, the *Sangomas*, herbalists and rural dwellers on the plants used for the treatment of wounds in the Eastern Cape province of South Africa.

## 2. Methodology

Information presented in this paper was collected from the *Sangomas*, herbalists and rural dwellers in the Province. The study area falls within the latitudes 30°00'–34°15'S and longitudes 22°45'–30°15'E. It is bounded by the sea in the East and

the drier Karroo (semi-desert vegetation) in the West. The elevation ranges from sea-level to approximately 2200 m in the north of the province.

Adopting the methods of Jovel et al. (1996), information was compiled through general conversations with the informants and questionnaires were used to obtain additional information about the methods of treatment. The information collected included local names, the parts of the plant used, methods of preparation, usage and personal experience of the users. Some plants were obtained directly from the healers, while others were collected during walks through the forest while accompanied by the *Sangoma*, herbalist or the rural dwellers. The plants were identified by their vernacular names through consultations with the local people. Voucher specimens were prepared and deposited in the herbarium of the University of Fort Hare Botany Department.

Additional information on the identification of the plants and their uses in other communities was collected and new findings established through consultation of Hedberg and Staugård (1989), Roberts (1990) and Van Wyk et al. (1997).

### 3. Results and discussion

The results of this study have revealed 38 plant species belonging to 26 families that are frequently used for the treatment of wounds by the people of the Eastern Cape (Table 1). Of these families, Asteraceae, Aspodelaceae and Solanaceae are the most commonly represented, comprising 23, 15 and 12%, respectively. It was observed that some plants have more than one vernacular name. The reason for this is because the same plant is prepared in different ways in different communities to treat different ailments.

The methods of preparation are in seven categories, viz.: plant parts which are applied as a poultice (14 species), those applied directly or warmed as bandages (ten species), infusions made from fresh or dried material (ten species), and those from which the juice is extracted and applied to dressings or used for washing the wounds (five species). Others are prepared as lotions (five species), ground into powders (four species) or

prepared as ointment (two species). It was also observed that some plants were used in more than one method of preparation.

Leaves were reported to be the most frequently used part of the plants for the treatment of wounds, constituting about 68% of the preparations. This is followed by stem bark that constituted 19%, while the roots, bulbs and corms made up 13% of the herbal preparations. In all cases, the treatment of wounds involved the external application of the medicine. No internal use was reported.

This study has, again, revealed that medicinal plants still play a very vital role in the primary health care of the people of this Province. During the survey, it was observed that more than 50% of the total number of people questioned, regularly used medicinal plants to treat many ailments, including wounds. Work is in progress on the ethnopharmacological, phytochemical and pharmacological aspects of some of these plants, especially *Polystichum pungens*, *Cheilanthes viridis*, *Malva parvifolia* and *Grewia occidentalis* (Grierson and Afolayan, 1998).

Similar ethnobotanical studies have been reported in another part of South Africa (Rabe and Van Staden, 1997) and some other parts of the world (Leporatti and Pavesi, 1990; Jovel et al., 1996; Taylor et al., 1996; Raja et al., 1997).

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