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CULTURAL SIGNIFICANCE OF BIODIVERSITY: THE ROLE OF MEDICINAL PLANTS IN URBAN AFRICAN CULTURAL PRACTICES IN THE EASTERN CAPE, SOUTH AFRICA

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ABSTRACT.—Since the International Convention on Biodiversity in 1992 conservation biologists, ecologists and conservationists have devoted considerable attention to the conservation of biodiversity. With this has come the realization that solutions to biological problems often lie in the mechanisms of social, cultural, and economic systems. This shift has emphasized the relationship between biodiversity and human diversity, or what the Declaration of Belem (1988) calls an ''inextricable link'' between biological and cultural diversity. The term biocultural diversity was introduced by Posey to describe the concept denoting this link. To date this concept has been used only in reference to ''indigenous people'' who, as part of their traditional lifestyles, use biodiversity to sustain their cultural identity. Our research, however, demonstrates that Xhosa people (***amaXhosa***) living in an urban context in the Eastern Cape Province of South Africa continue to use wild plants for cultural purposes and often access these through commercial trade. We suggest that recognition of the cultural and spiritual values associated with wild plants would greatly enhance biodiversity conservation efforts. Recognition of the significant role that wild plants play in fulfilling cultural needs for urban Xhosa people would go a long way towards achieving this.

Key words: biocultural diversity, medicinal plants, South Africa, Xhosa people.

RESUMEN.—Desde la aprobación del Convenio Internacional sobre la Biodiversidad en 1992, biólogos de la conservación, ecólogos y conservacionistas han dedicado una atención especial a la conservación de la biodiversidad. Desde entonces, se acepta que para solucionar muchos problemas biológicos es necesario atender al funcionamiento de los sistemas sociales, culturales y económicos. Todo ello ha puesto de manifiesto la gran relación entre la biodiversidad y la diversidad humana, lo que la Declaración de Belem (1988) llamó el ''vínculo inextricable'' entre la diversidad biológica y cultural. El término diversidad biocultural fue introducido por Posey para expresar el concepto que implica este vínculo. Este término se ha utilizado hasta ahora para referirse a ''comunidades indígenas'' que incluyen en su modo de vida tradicional, como un elemento de su identidad cultural, el uso de la biodiversidad. Sin embargo, este artículo muestra que los Xhosa (***amaXhosa***) que viven en un contexto urbano en Sudáfrica, en la provincia Oriental del Cabo continúan usando plantas

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silvestres para usos culturales (por ejemplo, funciones rituales y religiosas) y suelen obtenerlas por intercambio comercial. El reconocimiento de los valores culturales y espirituales asociados a las plantas silvestres servirá para hacer más eficaces los esfuerzos por conservar la biodiversidad. El reconocimiento del importante papel de las plantas silvestres para satisfacer las necesidades culturales de los Xhosa que viven en ámbitos urbanos, ayudará a lograr este objetivo.

RÉSUMÉ.—Depuis le Sommet de Rio en 1992, les biologistes, les écologistes ainsi que les différents acteurs en biologie de la conservation ont largement tourné leur attention vers la conservation de la biodiversité. En même temps, on s'est rendu compte que les solutions aux problèmes d'ordre biologique se trouvent souvent dans les mécanismes internes aux systèmes sociaux, culturels et économiques. Cette compréhension du problème a mis sous un nouvel éclairage le rapport entre la biodiversité et la diversité humaine ou, en d'autres mots, ce que la Déclaration de Belém (1988) « appelle un lien inextricable » entre la diversité biologique et culturelle. C'est Posey qui a mis de l'avant le terme de « diversité bioculturelle » pour décrire le concept exprimant ce lien. Jusqu'à présent, ce concept n'avait été utilisé que par rapport aux « Premières Nations » qui se servent de la biodiversité, en tant que faisant partie de leurs styles de vie traditionnels, pour maintenir leur identité culturelle. Cependant, cet article montre que la nation xhosa (***amaXhosa***)—qui vit dans un environnement urbain de la province du Cap oriental en Afrique du Sud—se sert toujours des plantes indigènes à des fins culturelles et que souvent ces gens ont accès à ces plantes par l'intermédiaire des activités commerciales. Nous soutenons que la reconnaissance des valeurs culturelles et spirituelles associées aux plantes indigènes augmentera considérablement les efforts de conservation de la biodiversité. Il est possible de réalisercet objectif en mettant sur pied des campagnes de sensibilisation au sein des programmes sur la conservation de la biodiversité qui illustreraient et soutiendraient le lien entre la diversité culturelle et la biodiversité. Reconnaître le rôle capital que jouent les plantes indigènes quant aux besoins culturels de la nation xhosa vivant en milieu urbain peut contribuer de manière considérable à la réalisation de cet objectif.

INTRODUCTION

The 1992 International Convention on Biodiversity stressed the vital role biodiversity plays in the ecological health of the planet. Since then scientists and environmentalists have paid greater attention to the conservation of biodiversity. As a result, biologists, ecologists, and conservationists have come to realize that solutions to environmental problems often lie in the mechanisms of social, cultural, and economic systems (Mascia et al. 2003). This shift in emphasis has resulted in increased attention being directed towards the relationship between biodiversity and human cultural diversity. Many of the planet's areas of highest biological diversity are inhabited by indigenous and traditional people, providing what the Declaration of Belem (Posey 1988) calls an 'inextricable link' between biological and cultural diversity, termed biocultural diversity by Posey (1999). Although there is a growing use of

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the term in current literature, there has been little critical reflection on precisely what it refers to. In particular, people at all levels of acculturation to their national societies may have knowledge and use of the ''natural'' environment. Therefore, to take full advantage of the term 'biocultural diversity' for conservation efforts, key concepts related to it, such as 'indigenous' and 'local' people, must be defined to include peri-urban and urban contexts (Cocks 2006). The reason is that increased urbanization does not necessarily imply a loss of traditional cultural values related to biodiversity use. For example, Cocks and Wiersum (2003) estimate that in peri-urban resettlement areas in South Africa, 50% of the available wild plant species are used to fulfill religious, ritual and spiritual requirements rather then serving purely a utilitarian function in the household. Such continued adherence to the fulfillment of rituals and cultural practices in southern Africa often goes unnoted (Bank 2002; Beinart and McGregor 2003).

Furthermore, those who use the concept of biocultural diversity must fully understand the relationship between humans and the environment, including the way people use the resources available to them from biologically diverse environments. In this regard it is important to recognize not only the spiritual values of sacred sites and plant and animal species as has been commonly documented (Laird 1999; Posey 1999), but also the use of wild harvested resources for spiritual, ritual and religious purposes. For example, we refer to the trade of traditional grass brooms within urban centers in the Eastern Cape Province of South Africa. The brooms are given to a bride as a wedding gift. The ceremonial presentation of these gifts is symbolic of traditional Xhosa culture and symbolizes respect for the ancestral faith in the newlyweds' home. The broom is also used to apply protective medicine (***amayeza***) to the home by ritually splashing an infusion of plant material against the walls and roof of the house (***ukutshiza***) (Cocks and Dold 2004).

We do not yet fully understand the reasons for the continuing use of wild plants in urban areas in southern Africa. Many studies have documented the economic value of the trade in medicinal plants within urban contexts (Cocks et al. 2004; Dold and Cocks 2002; Mander 1998; Williams 2004; Williams et al. 2000) and the problematic relation to biodiversity conservation through unsustainable harvesting (Cunningham 1991, 1997; Dold and Cocks 2002). However, there has not been much research on why urban South Africans continue to purchase ''medicinal plants'' on such a massive scale. There are a few qualitative accounts of the continued adherence to culturally inspired uses of medicinal plants (Hammond-Tooke 1989; Hutchings 1989), but there have been no quantitative analyses of such usage among the Xhosa living in cities. This research begins to qualify and quantify ***amayeza*** plants used in an urban context. In the medical and anthropological literature, the term ***amayeza*** is usually translated simply as ''medicinal plant,'' in relation to the treatment of physical ailments and their respective causes. We however suggest that ***amayeza*** refers to well being and healing practices in the broadest sense of the word, including nonphysical spiritual, ritual, and religious functions, which helps explain the reasons for its importance in ''non-traditional'' settings.

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AIMS AND RESEARCH METHODOLOGY

Several studies show that the use of and trade in medicinal plants in the Eastern Cape Province of South Africa is poorly understood. The aim of this research is to explain why Xhosa people living in urban areas continue to use wild plants. We document the uses and assess the value of the most frequently traded plant medicines regarding their physical and nonphysical use and evaluate the significance of these plants to a sample of urban users stratified by income as defined by cluster analysis. Furthermore, we suggest that the cultural value attributed to many plant species could be used as an argument to support the conservation of biodiversity as well as cultural diversity.

The following questions are posed: What are these plants used for? What is the significance of these plants to the users? What socioeconomic factors influence the urban use of 'medicinal' plants?

Information on the urban use of medicinal plants by Xhosa people was collected during two studies, in King William's Town and East London, in the Eastern Cape Province of South Africa. The Xhosa people are of Nguni descent and are concentrated in the Eastern Cape Province, with a large rural population in the former Homelands of Ciskei and Transkei and the urban areas in the province. IsiXhosa is the second most commonly spoken language in South Africa, with about 7 million primary speakers (constituting just over 17% of the total South African population).

The first study, completed in 2000, documented the urban trade of wild plant species including the quantities and market values of each (Dold and Cocks 2002). This survey was conducted in six urban centers in the Eastern Cape Province, including King William's Town, Port Elizabeth, Queenstown, Uitenhage, Umtata and East London. Two hundred and eighty-two questionnaires were answered by key participants in the medicinal plant trade, including medicinal plant street traders, medicinal plant store owners (African chemists), traditional healers, and clinic patients. This study showed that approximately 525 tonnes of plant material, comprising at least 166 taxa and valued at approximately US$4 million, are traded annually in the region. Details of the economic value of the 60 most frequently traded plant species are provided by Dold and Cocks (2002), but the uses of these plants are given, categorized, and discussed for the first time in this paper (Appendix 1). This elaboration of data detailing the use of the medicinal plant species was gained through additional in-depth interviews with key informants (traders and collectors) and specialist users (traditional healers, diviners and herbalists) over an extended period.

A second study, completed in 2004, constituted a survey amongst medicinal plant users living in King William's Town and East London. Five hundred and thirteen households were interviewed to document their use of medicinal plants over a period of one year. Data on household composition and economic status were collected from 302 of these households. A summary of the household profiles is provided in Table 1. Cluster analysis techniques were used to identify wealthy and poor households. The households were found to cluster statistically into three groups, identifiable as poor, middle income and wealthy clusters. Variables used to cluster the households included assets such as a motor vehicle,

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TABLE 1.—Socioeconomic profile of the households surveyed (n = 302 households).

	Frequency			As a percentage of the household		
Household members	Mean	Median	Range	Mean	Median	Range
Adults	2.8	3	0–7	63.6	60	0–100
Children (< 18 years)	1.7	2	0–8	33.8	33	0–100
Pensioners	0.1	0	0–2	2.4	0	0–33
Formally Employed	1.0	1	0–4	24.4	20	0–100
Informally Employed	0.3	0	0–4	7.8	0	0–100
Self-Employed	0.0	0	0–2	3.0	0	0–100

television, or refrigerator; the size of the house (number of rooms); construction type (brick, zinc, wood); number of household members; and income (employment, pension, state grants). A summary of the main socioeconomic conditions of the different categories of households and their statistical comparisons are provided in Table 2. Where the variables were categorical, a Chi-Squared test of independence was used. For numerical variables, we used the Kruskal-Wallis test to determine significant differences in locations among the three groups.

THE ROLE OF 'MEDICINAL' PLANTS—*AMAYEZA YESIXHOSA*

Directly translated, ***amayeza yesiXhosa*** means 'Xhosa medicines' and comprises plant-based medicines for both physical illness recognized by Western biomedicine and afflictions recognized by Xhosa people as being caused by the supernatural (Kropf 1915; Soga 1931). For most indigenous non-European South Africans, good health requires not only a healthy body, but also a healthy environment, because it is possible to absorb harmful elements from the environment that can cause misfortune and ill-health (Ngubane 1977). For Xhosa people, good health, disease, success or misfortune are seldom considered to be chance occurrences, but are often the result of active intervention by individuals or the ancestors (***izinyanya***) (Bührmann 1986; du Toit 1998; Gelfand 1957; Hirst 1990). Indigenous South Africans take measures to protect themselves by strengthening their own resistance and that of their family members to withstand harm. It is important to establish and maintain a form of balance with one's surroundings (Ngubane 1977). A number of ritual activities are engaged in to maintain health. Communication with the ancestors is of foremost importance and using medicines, remedies and wearing protective necklaces are further health strategies (du Pisani 1988). Certain forms of ritual purification such as a ritual body wash (***ukuhlamba ngeyeza***), use of a purgative (***ukugabha*** and ***ukucima***), spraying (***ukutshiza***), fumigating (***ukugxotha***) or a steam treatment (***ukufutha***) as counteractive and protective measures often involve the use of plant material (du Toit 1998). Some illnesses (***ukufa kwamaXhosa***) are perceived as only being treated with traditional Xhosa medicine (***amayeza yesiXhosa***), although symptoms may be relieved simultaneously with patent medicines (Cocks and Møller 2002).

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TABLE 2.—Socioeconomic conditions of the households interviewed.

	Poor	Middle income	Wealthy	Test Statistic
Household Head				
Gender (%)				$\chi^2 = 5.4$; df = 1; $p < 0.05$
Female ($n = 125$)	33	34	33	
Male ($n = 172$)	24	30	46	
Education Level (%)				$\chi^2 = 76.9$; df =6; $p < 0.0001$
None or Primary ($n = 64$)	39	44	17	
Secondary ($n = 48$)	33	40	27	
Higher Secondary ($n = 55$)	32	33	35	
Further ($n = 60$)	2	10	88	
Household Income (Mean ± SD)				
Number of formal jobs within the household ($n = 298$)	0.5 ± 0.5	1.0 ± 0.8	1.3 ± 0.8	H = 55.1; df = 2; $p = < 0.0001$
Number of pensions or welfare grants within the household	0.2 ± 0.4	0.3 ± 0.5	0.2 ± 0.5	H = 2.26; df = 2; $p < 0.001$
Number of informal jobs within the household	0.5 ± 0.6	0.3 ± 0.6	0.1 ± 0.4	H = 21.3; df = 2; $p < 0.0001$

In accordance with the above discussion, the nonphysical uses of ***amayeza*** were assigned to four broad categories, namely spiritual cleansing, luck, protection against evil spirits, and sorcery. ***Amayeza*** used to treat physical complaints, such as fevers, headaches and high blood pressure, are generally called ***umkhuhlane*** and refer to physically caused illness (Kropf 1915). Medicines to treat these conditions are considered potent and effective and therefore do not require ritual action (Ngubane 1977).

RESULTS

Species Traded in Urban Markets and Their Uses.—The 60 most frequently traded plant species in urban markets in the Eastern Cape are listed elsewhere (Dold and Cocks 2002). Analysis of their uses reveals that 52 of them were sold for more than one use. Forty-eight species were found to have nonphysical functions, with 27 being used exclusively to treat ailments and afflictions related to ***ukufa kwamaXhosa***. Forty were used to treat 33 physical ailments.

Thirty of the plant species traded in urban markets are administered as emetics (***iyeza lokukugabha***) and enemas (***iyeza lokukucima***), used either routinely as a preventive health measure or at the onset of illness symptoms. It is often believed that a cure or relief is to be found only through ritual purging and cleansing of the body, internally and externally. In agreement with Pujol (1993) and Leclerc-Madlala (1994), we find that purging in all its forms is often the first course of action in the quest for a cure for illness. Purging is often accompanied by washing with an infusion of plant material (***iyeza lokuhlamba***)

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(29 species) as a protective measure against afflictions caused by the ancestors, sorcery and evil spirits (***umgqwaliso***), and nonphysical afflictions such as ''dirty blood'' (***igazi elimdaka***), presumed to be caused by the supernatural. Similar infusions are sprayed and sprinkled (***ukutshiza***) on the walls, roof, and floor of the home and the cattle byre (9 species) with a traditional grass broom (Cocks and Dold 2004), also as a protective measure. Plant material is burnt as incense to fumigate (***ukugxotha***) the home and the body by inhalation (6 species) and boiled to steam the body and face (***ukufutha***) (13 species) as a protective measure, and in preparation for rituals honoring the ancestors. Charm plants, often living, are positioned in and around the home and cattle byre as protective agents (***intelezi***) or are carried on the person (***ikhubalo***) to ensure positive results in, for example, sporting events, court cases, exams, business transactions, and courting (9 species). Specific plants are used in various ways to facilitate communication with the ancestors (***ubulawu***), most often during rituals (3 species). These data clearly demonstrate the importance of what has been called ''well-being enhancing'' medicines (Cocks and Møller 2002).

Urban Household Use of ***Amayeza***.—The urban household surveys in King William's Town and East London indicated that 67% ($n = 513$) of the households interviewed had made use of ***amayeza*** within the past year. In total 64 plant species were used: 17 had multiple uses, 45 were used for nonphysical purposes, and 26 were used to treat physical symptoms.

A total of 674 use occurrences during 2004 were recorded of which 45% (306) were for nonphysical problems and 55% (367) for physical symptoms. Forty-five percent (306) of the ***amayeza*** utilized were purchased from urban vendors. Of these, 58% (175) were used for nonphysical purposes while 42% (128) were purchased to treat physical symptoms. Thirty-two percent (215) were collected from home gardens and 19% (132) from surrounding natural vegetation. The remaining 4% were not given a location. Of the collected ***amayeza***, 34% (119) were used for nonphysical purposes and 66% (228) for physical symptoms.

The highest level of ***amayeza*** use was recorded amongst households that were classified as poor, followed by middle income and wealthy households (Table 3). Subsequently, a statistical relationship was established between wealth and the use of ***amayeza***. The use of ***amayeza*** was significantly influenced by the household heads' occupations and their level of education, and the household heads' gender and age was only slightly significant (Table 4). Households using ***amayeza*** were predominately headed by a male (46% of the households using ***amayeza***). Forty-seven percent of the household heads' using ***amayeza*** were between the age of 30 and 59 years old, employed in low and medium skilled occupations (23%) and with secondary levels of education (36%).

Poor households utilized the highest percentage of ***amayeza*** for nonphysical purposes (50% of 84 households), followed by middle income households (47% of 98), and wealthy households (44% of 119). Although wealthy households showed few differences regarding nonphysical use of ***amayeza*** it was found that 7% of the middle income and 7% of the wealthy households used ***amayeza*** for protection against sorcery whereas no poor households did. A higher proportion of the poor (26%) and middle income (29%) households made use of ***amayeza*** for

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TABLE 3.—Influence of wealth on household use of ***amayeza*** in King William's Town and East London in 2003. Yes/No indicates whether or not a respondent reported ***amayeza*** use in the last twelve months.

	Poor households $n = 84$		Middle income households $n = 98$		Wealthy households $n = 119$	
	Yes	No	Yes	No	Yes	No
Percent	75	25	66	34	54	46
Test significance	$\chi^2 = 10.003$, df = 2, $p < 0.01$					

spiritual cleansing whereas only 15% of the wealthy households reported this use.

DISCUSSION AND CONCLUSION

An analysis of the trade survey data reveals that the majority of ***amayeza*** species are sold for more than one use (52 species), including both physical ailments (40 species) and nonphysical ailments (48 species), those being perceived to be of supernatural causes. Of the 60 most frequently traded ***amayeza*** species, 50% were used for purging and 48% for ritual washing of the

TABLE 4.—Household demographic factors affecting urban use of ***amayeza*** in King William's Town and East London in 2003.

	Amayeza use (%)		Test Statistic and p-value
	No	Yes	
Gender of household head ($n = 469$)			$\chi^2 = 5.3$; df =1; $p < 0.05$
Male	18	46	
Female	9	27	
Occupation of household head ($n = 334$)			$\chi^2 = 23.0$; df = 4; $p < 0.001$
Pensioner	4	15	
Professional	9	10	
Unemployed	2	13	
Low/medium skill	13	23	
Other	1	8	
Education level of household head ($n = 339$)			$\chi^2 = 28.4$; df = 3; $p < 0.001$
None or primary	3	23	
Secondary	16	36	
Further	10	12	
Age of household head ($n = 388$)			$\chi^2 = 7.6$; df = 2; $p < 0.05$
> 60	5	20	
30–59	25	47	
18–29	1	2	

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body, where both practices use infusions of plant material. These ritual applications are requirements for the treatment of and protection against sorcery, for communicating with the ancestors, for counteracting evil forces, for spiritual well being and as good luck charms.

Although it is widely acknowledged that some urban indigenous Africans make use of traditional medicine, the urban household survey reveals that as many as 67% of urban dwellers in the study site used ***amayeza*** during a one-year period. The majority of the 64 ***amayeza*** plants used by these households addressed nonphysical afflictions. Due to the large diversity of plant species required for nonphysical purposes, many of these plants had to be purchased at informal medicinal plant markets supplying the urban demand. Clearly urban dwellers, particularly those from poor households, are prepared to spend cash to obtain these resources. This demonstrates that elements of traditional world-views related to health care and well-being are still strongly adhered to in urban areas. A smaller percentage of plants were grown in home gardens, and were used primarily to treat physical ailments such as the common cold and coughs. Some plants were also collected from natural vegetation in neighboring areas.

The highest level of ***amayeza*** use was recorded amongst poor households, followed by middle income and wealthy households. The reason for this may be twofold: pharmaceutical medicines are often not within the financial reach of poor households, and wealthy households, being financially and socially more secure, are less likely to encounter misfortune requiring protective ***amayeza***. In contrast, the middle income and wealthy households use ***amayeza*** to treat symptoms associated with sorcery, indicating that with an increase in wealth members of the household experience the threat of witchcraft, most often attributed to jealousy, more frequently than do poor households.

Despite less use of ***amayeza*** by wealthy households, still more than half of the wealthy urbanized households used ***amayeza***, indicating that Xhosa beliefs and practices are still retained by these households. This study demonstrates the significant role that wild plants play in providing health services and a feeling of 'well-being' among urban groups. Furthermore, both Cocks and Wiersum (2003) and van Lieshout (2002) show that children and youths in the study area expected to continue using wild plants for physical and nonphysical Xhosa-specific ailments in the future.

Dold and Cocks (2002) found that 93% of the ***amayeza*** species traded in the Eastern Cape are harvested unsustainably. Consequently, Dold and Cocks (2002) recommend giving high priority to 34 species for conservation management, as wild plant stocks are being depleted to dangerously low levels. Three species are listed as IUCN Red List species as a result of their over-exploitation for the ***amayeza*** trade (Victor and Dold 2003). These three species are used to treat ***ukufa kwamaXhosa*** afflictions, thus indicating that such practices are also potentially threatened by the loss of these species.

If a goal of biodiversity conservation includes managing change in dynamic environmental systems (Infield 2001), conservation programs need to take into account ever changing cultural circumstances (Cocks 2006). In our view it is of paramount importance that biodiversity conservation programs develop campaigns that emphasize the link between cultural and biodiversity conservation.

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Biodiversity conservation programs must take cognisance of the multitude of cultural values that affect biodiversity, as these factors are an integral part of the newly emerging socio-economic group in newly emerging socio-economic conditions. This message needs to become the central thrust in biodiversity programs. Conservationists need to be made aware not only of the link between the loss of the natural habitat and cultural practices, but also of the options for incorporating cultural values in novel biodiversity conservation approaches. It is believed that the implementation of such educational campaigns would have far greater success then species-focused conservation approaches, which are perceived to benefit only the elite and not the ordinary person in the street. Highlighting the significant role that ***amayeza*** species play in fulfilling ritual and spiritual practices amongst the Xhosa they would go a long way towards achieving this.

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APPENDIX 1.—The 60 most frequently traded plants in order of frequency and their uses. (Frequency refers to the number of respondents who listed the plant species amongst their top ten most commonly sold plant species.) Botanical nomenclature follows Germishuizen and Meyer (2003) and Xhosa orthography follows Dold and Cocks (1999). Voucher specimens are lodged in the Selmar Schonland Herbarium (GRA). Appendix 2 lists plants in alphabetical order by genus.

No.	Xhosa name; Latin binomial; family (voucher specimen number)	Recorded uses
1	***inongwe, ilabatheka*** *Hypoxis hemerocallidea* Fisch. & C.A. Mey., Hypoxidaceae (Dold 4000)	An infusion of the tuber is taken orally to treat kidney pain, high blood pressure, diabetes and arthritis, and as a general tonic for poor health; a paste is applied topically to treat pimples and acne and skin rash (***umlambo***) caused by ***abantu bomlambo***.
2	***isidumo*** *Ilex mitis* (L.) Radlk., Aquifoliaceae (Dold 4027)	An infusion of the bark is taken orally to treat excess bile (***inyongo***) in the stomach; a gargle for sore throat; a steam treatment /wash for pimples or acne; an emetic to ensure good fortune; powdered bark is applied as a cosmetic to protect women from evil spirits (sorcery).
3	***uchithibhunga*** *Rhoicissus digitata* (L. f.) Gilg & Brandt, Vitaceae, (Dold 1717) *Rhoicissus tridentata* (L. f.) Wild & R.B. Drum. subsp. *tridentata*, Vitaceae (Dold 1764)	An infusion of the tuber is taken for high blood pressure and acute headaches; used as a ritual wash (***iyeza lokuhlamba***) and as an emetic for luck and protection against sorcery or evil spirits; a facial steam treatment (***ukufutha***) to ensure good fortune; a small piece is held in the mouth for protection at times of vulnerability such as court cases; a treatment for goats and sheep with paratyphoid (***umkhondo***).
4	***impendulo, ubulawu*** *Rubia petiolaris* DC., Rubiaceae (Dold 1831)	An infusion of the leaves is used as an emetic (***ukugabha***) to relieve body rash; as a ritual wash and emetic for luck and protection against sorcery or evil spirits and to facilitate communication with ancestral spirits during rituals; as an emetic in preparation for a court case to ensure positive results; leaves are burnt as incense to ensure positive results in court case. Leaves are used in the preparation of a lucky charm called ***isiphondo***.
5	***impepho*** *Helichrysum odoratissimum* (L.) Sweet, Asteraceae (Dold 3991, 4004)	Dry leaves are burnt as incense in rituals to facilitate communication with ancestral spirits and as protection against sorcery or evil spirits.
6	***umlahleni*** *Curtisia dentata* (Burm. f.) C.A. Sm., Cornaceae (Dold 1819, 4038)	An infusion of the bark is taken as an emetic or used as a steam treatment for luck or protection against sorcery or evil spirits. Leaves are chewed to counteract sorcery (***ukuthakatha***); bark is used in a treatment for heartwater disease in cattle.

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APPENDIX 1.—Continued.

No.	Xhosa name; Latin binomial; family (voucher specimen number)	Recorded uses
7	***uzintlwa*** *Protorhus longifolia* (Bernh.) Engl., Anacardiaceae (Dold 1751)	An infusion of the bark is used as an emetic to ensure good fortune; treatment for heartwater disease and paratyphoid in cattle.
8	***irooiwater, ingcelwane*** *Bulbine latifolia* (L.f.) Roem. & Schult., Asphodelaceae (Dold 1509, 3974; Cocks 18)	Leaf sap is applied topically to treat skin disorders; taken orally to treat bladder infection and as a treatment for childbirth difficulties; an infusion of root is taken to purify the body internally by cleaning ''dirty blood'' (***igazi elimdaka***). Dried, powdered tuber is used cosmetically by women to protect against bad luck attributed to witchcraft (***umgqwaliso***).
9	***intelezi*** *Gasteria bicolor* Haw. var. *bicolor*, Asphodelaceae (Dold 1517, 1697) *Haworthia attenuata* Haw., Asphodelaceae (Dold 3989)	An infusion of the leaf is used as a ritual wash to dispel nightmares and fear of the unknown; splashed on floor and walls (***ukutshiza***) of the home to drive off evil spirits; taken orally as an emetic to ensure good fortune; used as a ritual wash to ensure positive results in exams, etc. Live plants are grown around the homestead as protection against sorcery or evil spirits.
10	***umaphipha*** *Rapanea melanophloeos* (L.) Mez, Myrsinaceae (Dold 3969)	An infusion of the bark is used as a ritual wash against sorcery; bark is burnt as incense to dispel evil spirits from the home; taken as an emetic to cleanse/protect the body from sorcery; an infusion of bark is taken to purify the body internally by cleaning ''dirty blood'' and as a treatment for asthma (***isfuba***). The bark is used in a treatment for heartwater disease in cattle.
11	***inceba*** *Polygala serpentaria* Eckl. & Zeyh., Polygalaceae (Dold 1832)	An infusion of the root is taken orally as an emetic and used as a ritual wash to ensure good fortune; powdered bark is used as a snuff to treat headache inflicted by sorcery.
12	***umnonono*** *Strychnos henningsii* Gilg, Strychnaceae (Dold 3967) *Strychnos decussata* (Pappe) Gilg, Strychnaceae (Dold 1752)	An infusion of the bark is taken orally to purge and counteract poisoning (***idliso***) inflicted by sorcery and to purify the body internally by cleaning ''dirty blood.''
13	***idabulitye, umayisake*** *Cissampelos capensis* L.f., Menispermaceae (Dold 1712)	An infusion is used as a ritual wash against evil spirits or bad luck and taken orally for chest pain, stomach ache and sexually transmitted disease. Wood is burnt as incense against evil spirits and sorcery.

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APPENDIX 1.—Continued.

No.	Xhosa name; Latin binomial; family (voucher specimen number)	Recorded uses
14	***impinda bamshaye*** *Rhoicissus tomentosa* (Lam.) Wild & R.B. Drumm., Vitaceae (Dold 1749, 4028)	An infusion of the tuber is used as a ritual wash against evil spirits or bad luck and as a treatment for paratyphoid in sheep and goats.
15	***ufudo, usikolipati*** *Dioscorea sylvatica* (Kunth) Eckl., Dioscoreaceae Cocks 5)	An infusion of the tuber is used as a ritual wash, a steam treatment, and an emetic against evil spirits or bad luck attributed to sorcery.
16	***umrateni*** *Drimia elata* Jacq., Hyacinthaceae (Dold 1704)	An infusion of the bulb is used as a ritual wash against evil spirits or bad luck attributed to sorcery and taken orally to purify the body internally by cleaning ''dirty blood.''
17	***umathunga*** (also ***umvenyathi***) *Asparagus africanus* (Lam.) Oberm., Asparagaceae (Cocks 3)	An infusion of the root is taken orally to treat broken or fractured bones and physical injury, to promote healthy delivery during childbirth, and taken to treat sexually transmitted diseases (***igcushuwa***).
	Haemanthus albiflos Jacq., Amaryllidaceae (Dold 3973)	An infusion of the bulb is taken orally to treat broken or fractured bones and physical injury in humans and livestock.
18	***inkomoyentaba, ungcana*** *Dianthus thunbergii* Hooper, Caryophyllaceae (Dold 1810, 3997)	An infusion of the root is used as a ritual wash against evil spirits or bad luck attributed to sorcery and taken orally to facilitate communication with ancestral spirits through dreams.
19	***inkathazo, iqwili*** *Alepidea amatymbica* Eckl. & Zeyh. var. *amatymbica*, Apiaceae (Cocks 100)	An infusion of the root is taken orally to counteract poisoning inflicted by sorcery and as a treatment for asthma and stomach ache. The root is chewed and spat out in a ritual is called ***ukuchila*** to terminate nightmares caused by witchcraft.
20	***iphuzi*** *Gunnera perpensa* L., Gunneraceae (Dold 1808)	An infusion of the root is taken orally to treat rash caused by ***abantu bomlambo***; an infusion of the root is taken to purify the body internally by cleaning ''dirty blood.''
21	***uyakayakana, iikubalo labantwana*** *Bulbine abyssinica* A. Rich., Asphodelaceae (Cocks 21, Dold 1510)	An infusion of the root is taken orally to treat bladder infection and menstrual pain; used as an enema (***ukucima***) to relieve colic (***nemoya***) in weaning infants; a treatment for red water disease (***umanzabomvu***) in cattle.

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APPENDIX 1.—Continued.

No.	Xhosa name; Latin binomial; family (voucher specimen number)	Recorded uses
22	***umavumbuka*** *Hydnora africana* Thunb., Hydnoraceae (Cocks 101) *Sarcophyte sanguinea* Sparrm., Balanophoraceae (Cocks 97)	An infusion of the dried fruiting body is taken orally to treat diarrhea as well as stomach cramps; a paste of the dried fruiting body is applied topically to treat acne and related skin complaints.
23	***ishwadi*** *Boophone disticha* (L.f.) Herb., Asphodelaceae (Dold 3988, 4011, 4048)	An infusion of the bulb is taken orally to treat a hysteria called ***ifufunyane***; bulb scales are used as a bandage to treat circumcision wound; a treatment for red water disease in cattle.
24	***isilawu*** (also ***ubuhbhubhu***) *Behnia reticulata* (Thunb.) Didr., Behniaceae (Dold 1756) *Helinus integrifolius* (Lam.) Kuntze, Rhamnaceae (Dold 1760, 3994)	An infusion of the root is taken orally to treat ***ifufunyane***; used as a ritual body wash and an emetic for luck or good fortune and positive results in court cases, exams, competitions, etc.
25	***ujojo, umvuthuza*** *Ranunculus multifidus* Forssk., Ranunculaceae (Dold 4043)	An infusion of the root is used as an emetic and as a steam treatment to treat rash caused by ***abantu bomlambo***.
26	***inqwebeba*** *Albuca setosa* Jacq., Hyacinthaceae (Cocks 98)	An infusion of the bulb is used as a ritual wash, an emetic, and a facial steam treatment as protection against bad luck and sorcery; an infusion is splashed on the floor and walls of the home to drive off evil spirits.
27	***umayime*** *Dracaena aletriformis* (Haw.) Bos, Dracaenaceae (Dold 4031)	An infusion of the root is used as a ritual wash against evil spirits or bad luck; leaf sap is applied directly to treat earache.
28	***uvendle*** *Pelargonium reniforme* Curtis, Geraniaceae (Dold 3986)	An infusion of the tuber is taken orally to treat internal bleeding and diarrhea; used as a ritual wash against evil spirits or bad luck; a treatment for paratyphoid and heartwater disease in cattle.
29	***iperepes, isifutho, isiqhumiso*** *Clausena anisata* (Willd.) Hook. f. ex Benth., Rutaceae (Dold 1689	Leaves are burnt as incense (***ukugxotha***) to dispel evil spirits; an infusion is used to treat coughing, sore throat, fever and measles.

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APPENDIX 1.—Continued.

No.	Xhosa name; Latin binomial; family (voucher specimen number)	Recorded uses
30	***isikolokotho*** *Sansevieria hyacinthoides* (L.) Druce., Dracaenaceae (Dold 4061)	Leaf sap is applied directly to treat earache; an infusion is taken orally to expel internal parasites; to treat conjunctivitis (***isifo samehlo***) in sheep and goats.
31	***ityholo*** *Clematis brachiata* Thunb., Ranunculaceae (Dold 1894, 1821)	An infusion of the bark is taken orally to treat rheumatism and asthma; used as a facial steam treatment to ensure luck or good fortune and to treat infection of pig lice (***untwala zehagu***) attributed to sorcery.
32	***icimamlilo*** *Pentanisia prunelloides* (Klotzsch ex Eckl. & Zeyh.) Walp., Rubiaceae (Dold 4010)	An infusion of the root is taken orally to treat rash or itching (***izigxala***) caused by ***abantu bomlambo;*** splashed and sprinkled around the home as a protection against lightning caused by sorcery.
33	***isindiyandiya*** *Bersama lucens* (Hochst.) Szyszyl., Melianthaceae (Dold 1272, 1907)	A small piece of bark is carried under the tongue in times of trouble or danger as a protective charm; an infusion of bark is taken to purify the body internally by cleaning ''dirty blood.''
34	***uvuma*** *Dolichos falciformis* E. Mey., Fabaceae (Dold 4008)	An infusion of the root is used as an emetic for cleaning the blood and to treat excess bile.
35	***inyamyempunzi*** *Diospyros villosa* (L.) de Winter, Ebenaceae (Dold 1914)	An infusion of the bark is used as an emetic as protection against bad luck and sorcery; a poultice is applied to bruises and internal injury.
36	***umwelela, itswele lomlambo*** *Tulbaghia violaceae* L.f., Alliaceae (Dold 1554)	An infusion of the tuber is used as an emetic and ritual wash to ensure luck or good fortune and protection against evil forces; a treatment against heart attack; drops into nose and ears of infants protects them from contamination by evil spirits and sorcery; splashed and sprinkled around the home as a protection from evil spirits; plants are grown around the home and in containers as protection from evil spirits and sorcery; tuberous root is chewed to treat panic attack (***umbilini***).
37	***ummemezi*** *Cassipourea flanaganii* (Schinz) Alston., Rhizophoraceae (Dold 1743, 3966)	A paste made from the bark is applied topically as a cosmetic (***ukumemeza***); to treat pimples and improve complexion; bark infusion taken as an emetic to ensure success in business.

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APPENDIX 1.—Continued.

No.	Xhosa name; Latin binomial; family (voucher specimen number)	Recorded uses
38	***umgqeba*** *Brachylaena ilicifolia* (Lam.) Phill. & Schweick., Asteraceae (Dold 1504, 4052)	An infusion of the leaves is taken orally to treat diabetes, coughs, sore throat and asthma; a gargle to treat pimples in the mouth; treatment for sheep with paratyphoid.
39	***uphuncuka*** *Talinum caffrum* (Thunb.) Eckl. & Zeyh., Portulacaceae (Dold 1675)	An infusion of the tuber is used as a ritual wash, steam treatment, and emetic for protection against evil spirits and bad luck. Dried leaves are burnt as incense in preparation for a court case to ensure positive results; preparation of a lucky charm called ***isiphondo***.
40	***umagaqana*** *Bowiea volubilis* Harv. ex Hook. F., Hyacinthaceae (Dold 2467)	An infusion of the bulb is taken orally to counteract poisoning inflicted by sorcery; used as an enema to treat impotence (men only).
41	***ubhoqo*** *Ipomoea crassipes* Hook., Convolvulaceae (Dold 3995) *Ipomoea crispa* (Thunb.) Hallier f., Convolvulaceae (Dold 4002)	An infusion of the tuber is taken orally as an emetic for cleansing the blood; an infusion is sprinkled on floor and walls of the home to drive off evil spirits; a small dry piece is carried for confidence and strength (***isthunzi***).
42	***iphamba*** *Cyrtorchis arcuata* (Lindl.) Schltr., Orchidaceae (Dold 1747) *Polystachya pubescens* Reichb. f., Orchidaceae (Dold 1746) *Eulophia streptopetala* Lindl., Orchidaceae (Dold 1836)	An infusion of the pseudobulb is used as a ritual wash and facial steam treatment to ensure good fortune; splashed against the walls of the kraal to protect the animals from evil and ensure good health (administered by traditional healer); a ritual wash and emetic to insure positive results in a court case, exams, sports competitions, etc.
43	***ulatile, umfazonengxolo*** *Hippobromus pauciflorus* (L.f.) Radlk., Sapindaceae (Dold 1677, 1834)	An infusion of the bark is used as a ritual wash to ensure good fortune and protection against evil spirits and sorcery; emetic for gall problems; treatment for heartwater disease and paratyphoid in cattle.
44	***isilawu, iyeza lamehlo*** *Scabiosa columbaria* L., Dipsacaceae (Dold 4003)	An infusion of the root is applied directly to treat eye infection; as an emetic to facilitate dreams (applied by traditional healers).
	isilawu esibomvu *Tritonia lineata* (Salisb.) Ker-Gawl., Iridaceae (Dold) 4013	An infusion of the corm is used as an emetic to ensure good fortune.

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APPENDIX 1.—Continued.

No.	Xhosa name; Latin binomial; family (voucher specimen number)	Recorded uses
45	***imvane, inqatha, isilawu esimhlope*** *Asparagus suaveolens* (Burch.) Oberm., Asparagaceae (Dold 3984, 4015)	An infusion of the root is used as a ritual wash to ensure good fortune and protection against evil spirits; an infusion of root is taken to purify the body internally by cleaning ''dirty blood''; treatment for sexually transmitted disease; treatment for weak cows after calving.
46	***isibara, umkhuhlu*** *Trichilia dregeana* Sond., Meliaceae (Dold 4033)	An infusion of the bark is used as an emetic to ensure good fortune and as a general tonic for HIV – AIDS symptoms.
47	***utuvishe*** *Kedrostis foetidissima* (Jacq.) Cogn., Cucurbitaceae (Dold 1710, 1681)	An infusion of the tuber is used as a ritual wash for luck, e.g., in a court case; a small piece is held under the tongue in dangerous or troubled times.
48	***isidikili, umsilawengwe*** *Gnidia capitata* L.f., Thymeleaceae (Dold 3972)	An infusion of the bark of the root is taken orally to treat menstrual pains; treatment for heartwater disease in cattle.
49	***uhlunguhlungu*** *Vernonia mespilifolia* Less., Asteraceae (Dold 1759)	An infusion of the climbing stem is used as a treatment for wounds that will not heal, these are known as ''***umlambo***'' caused by ***abantu bomlambo***; treatment for heartwater disease in goats.
50	***igwejobomvu, intolwane*** *Elephantorrhiza elephantina* (Burch.) Skeels, Fabaceae (Dold 4089, 4112)	An infusion of the root is used to treat high blood pressure and asthma; an infusion of root is taken to purify the body internally by cleaning ''dirty blood''; treatment for mange in domestic animals; a piece of the stem is cut and buried underground at the entrance to the cattle kraal so that all animals walk over it when leaving the kraal, this ensures safety and good health (administered by traditional healers only).
51	***itshongwe*** *Pachycarpus concolor* E.Mey., Apocynaceae (Dold 2966) *Xysmalobium orbiculare* (E.Mey.) D. Dietr., Apocynaceae (Dold 4001) *Xysmalobium undulatum* (L.) W.T. Aiton, Apocynaceae (Dold 2219)	An infusion of the root is taken orally as a treatment for sexually transmitted disease (***ukubhabha***); a snuff from the dried root is used to treat headaches caused by sorcery.

No.	Xhosa name; Latin binomial; family (voucher specimen number)	Recorded uses
52	***ukreletsane*** *Ledebouria revoluta* (L.f.) Jessop, Hyacinthaceae (Cocks 22)	An infusion of the bulb is used as a ritual wash and an enema for luck and protection against sorcery/evil spirits; backache; colic in infants; a wash to treat nappy rash; treatment for paratyphoid in goats.
53	***intsihlo*** *Capparis sepiaria* L. var. *citrifolia* (Lam.) Tölken, Capparaceae (Dold 1721)	An infusion of the bark is used as a ritual wash, emetic for protection from evil and sorcery; a branch is attached to the entrance of the kraal to protect stock from lightening caused by sorcery; leaves are burnt as incense for protection from evil and sorcery; bark is chewed for coughs.
54	***intsema*** *Xysmalobium* sp., Apocynaceae (Dold 4001) *Euphorbia clava* Jacq., Euphorbiaceae (Dold 4045)	A paste made from the dried root is applied to pimples and rash; an infusion is used as a ritual wash for luck and protection against sorcery/evil spirits.
55	***iyeza lamasi*** *Senecio coronatus* (Thunb.) Harv., Asteraceae (Dold 1694, 1809)	An infusion of the root is taken orally as a treatment for stroke; given to weaning infants to prepare them for solid foods; to treat internal parasites in infants.
	Gerbera viridifolia (DC.) Sch. Bip., Asteraceae (Dold 4005) and *Nidorella* sp., Asteraceae (Dold 1691)	An infusion of the root is given to weaning infants to prepare them for solid food; to treat internal parasites in infants.
56	***ikhubalo likathikoloshe*** *Hypoxis* sp. c.f. *filifolia*, Hypoxidaceae (Cocks 99)	An infusion of the tuber is taken orally to treat high blood pressure, diabetes, arthritis and as a general tonic for poor health.
57	***umnukane*** *Ocotea bullata* (Burch.) Baill., Lauraceae (Dold 4040)	An infusion of the bark is used as a ritual wash and facial steam treatment for luck and protection against sorcery/evil spirits; to treat rash caused by ***abantu bomlambo***.
58	***umathunga, umphompo*** *Eucomis comosa* (Houtt.) Wehrh., Hyacinthaceae (Dold 1278)	An infusion of the bulb is taken orally to treat broken/fractured bones, to promote healthy delivery during childbirth; a decoction of the bulb is taken orally to soothe physical aches and pains, bruises and backache.

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APPENDIX 1.—Continued.

No.	Xhosa name; Latin binomial; family (voucher specimen number)	Recorded uses
59	***ibhosisi*** *Pteronia incana* (Burm.) DC., Asteraceae (Dold 4170)	An infusion of the fresh leaves is taken orally to treat coughs and expel excessive phlegm.
60	***idololenkonyane*** *Rumex steudelii* Hochst. ex A. Rich., Polygonaceae (Dold 4080)	An infusion of the tuber is taken orally to treat kidney pains (***isinqe***), bladder infection and internal parasites; dried root is burnt as incense to ensure good fortune; a paste from the dried tuber is applied to infections caused by ***abantu bomlambo***.

Some Xhosa terms in table: ***abantu bomlambo***: mythical River People associated with ancestral spirits; ***idliso***: poisoning perceived to be inflicted by sorcery; ***ifufunyane***: a nonphysical hysteria indicating possession by evil spirits, caused by sorcery; ***igazi elimdaka***: poor physical health with a wide range of symptoms attributed to ''dirty blood,'' but causes poorly understood; ***igcushuwa***: sexually transmitted disease; ***inyongo***: excess bile, heartwater disease; ***isfuba***: asthma; ***isinqe***: kidney pain, lower back pain, causes poorly understood; ***isiphondo***: a charm prepared by traditional healer; ***isthunzi***: confidence, strength; ***iyeza lokuhlamba***: a ritual wash against evil spirits or bad luck attributed to sorcery; ***nemoya***: colic; ***ukuchila***: to terminate nightmares caused by witchcraft; ***ukucima***: to administer an enema; ***ukufutha***: steam treatment to ensure good fortune; ***ukugabha***: emetic; ***ukugxotha***: the burning of plant material in the same way as incense with the purpose of expelling evil spirits, the equivalent of 'smudging'; ***ukumemeza***: to apply traditional cosmetics; ***ukuthakatha***: sorcery; ***ukutshiza***: spraying and sprinkling of an infusion of plant material against the floor and walls of the home and cattle byre; ***umanzabomvu***: red water disease in cattle; ***umbilini***: panic attack, anxiety; ***umgqwaliso***: witchcraft; ***umkhondo***: paratyphoid; ***umlambo***: skin rash (caused by ***abantu bomlambo***).

APPENDIX 2.—Index of most frequently traded plants (by genus).

Latin binomial	Family	Xhosa name	No.
Albuca setosa	Hyacinthaceae	***inqwebeba***	26
Alepidea amatymbica var. *amatymbica*	Apiaceae	***inkathazo, iqwili***	19
Asparagus africanus	Asparagaceae	***umathunga, umvenyathi***	17
Asparagus suaveolens	Asparagaceae	***imvane, inqatha, isilawu esimhlope***	45
Behnia reticulata	Behniaceae	***isilawu***	24
Bersama lucens	Melianthaceae	***isindiyandiya***	33
Boophone disticha	Amaryllidaceae	***ishwadi***	23
Bowiea volubilis	Hyacinthaceae	***umagaqana***	40
Brachylaena ilicifolia	Asteraceae	***umgqeba***	38
Bulbine abyssinica	Asphodelaceae	***uyakayakana, iikubalo labantwana***	21
Bulbine latifolia	Asphodelaceae	***irooiwater, ingcelwane***	8
Capparis sepiaria var. *citrifolia*	Capparaceae	***intsihlo***	53
Cassipourea flanaganii	Rhizophoraceae	***ummemezi***	37
Cissampelos capensis	Menispermaceae	***idabulitye, umayisake***	13
Clausena anisata	Rutaceae	***iperepes, isifutho, isiqhumiso***	29
Clematis brachiata	Ranunculaceae	***ityholo***	31
Curtisia dentata	Cornaceae	***umlahleni***	6
Cyrtorchis arcuata	Orchidaceae	***iphamba***	42
Dianthus thunbergii	Caryophyllaceae	***inkomoyentaba, ungcana***	18
Dioscorea sylvatica	Dioscoreaceae	***ufudo, usikolipati***	15
Diospyros villosa	Ebenaceae	***inyamyempunzi***	35
Dolichos falciformis	Fabaceae	***uvuma***	34
Dracaena aletriformis	Dracaenaceae	***umayime***	27
Drimia elata	Hyacinthaceae	***umrateni***	16
Elephantorrhiza elephantina	Fabaceae	***gwejobomvu, intolwane***	50
Eucomis comosa	Hyacinthaceae	***umathunga, umphompo***	58
Eulophia streptopetala	Orchidaceae	***iphamba***	42
Euphorbia clava	Euphorbiaceae	***intsema***	54
Gasteria bicolor	Asphodelaceae	***intelezi***	9
Gerbera viridifolia	Asteraceae	***iyeza lamasi***	55
Gnidia capitata	Thymeleaceae	***isidikili, umsilawengwe***	48
Gunnera perpensa	Gunneraceae	***iphuzi***	20
Haemanthus albiflos	Amaryllidaceae	***umathunga***	17
Haworthia attenuata	Asphodelaceae	***intelezi***	9
Helichrysum odoratissimum	Asteraceae	***impepho***	5
Helinus integrifolius	Rhamnaceae	***isilawu, ubuhbhubhu***	24
Hippobromus pauciflorus	Sapindaceae	***ulatile, umfazonengxolo***	43
Hydnora africana	Hydnoraceae	***umavumbuka***	22
Hypoxis hemerocallidea	Hypoxidaceae	***inongwe, ilabatheka***	1
Hypoxis sp. c.f. *filifolia*	Hypoxidaceae	***ikhubalo likathikoloshe***	56
Ilex mitis	Aquifoliaceae	***isidumo***	2
Ipomoea crassipes	Convolvulaceae	***ubhoqo***	41
Ipomoea crispa	Convolvulaceae	***ubhoqo***	41
Kedrostis foetidissima	Cucurbitaceae	***utuvishe***	47
Ledebouria revoluta	Hyacinthaceae	***ukreletsane***	52
Nidorella sp.	Asteraceae	***iyeza lamasi***	55
Ocotea bullata	Lauraceae	***umnukane***	57
Pachycarpus concolor	Apocynaceae	***itshongwe***	51
Pelargonium reniforme	Geraniaceae	***uvendle***	28

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APPENDIX 2.—Continued.

Latin binomial	Family	Xhosa name	No.
Pentanisia prunelloides	Rubiaceae	***icimamlilo***	32
Polygala serpentaria	Polygalaceae	***inceba***	11
Polystachya pubescens	Orchidaceae	***iphamba***	42
Protorhus longifolia	Anacardiaceae	***uzintlwa***	7
Pteronia incana	Asteraceae	***ibhosisi***	59
Ranunculus multifidus	Ranunculaceae	***ujojo, umvuthuza***	25
Rapanea melanophloeos	Myrsinaceae	***umaphipha***	10
Rhoicissus digitata	Vitaceae	***uchithibhunga***	3
Rhoicissus tomentosa	Vitaceae	***impinda bamshaye***	14
Rhoicissus tridentata (subsp. *tridentata*	Vitaceae	***uchithibhunga***	3
Rubia petiolaris	Rubiaceae	***impendulo, ubulawu***	4
Rumex steudelii	Polygonaceae	***idololenkonyane***	60
Sansevieria hyacinthoides	Dracaenaceae	***isikolokotho***	30
Sarcophyte sanguinea	Balanophoraceae	***umavumbuka***	22
Scabiosa columbaria	Dipsacaceae	***isilawu, iyeza lamehlo***	44
Senecio coronatus	Asteraceae	***iyeza lamasi***	55
Strychnos decussata	Loganiaceae	***umnonono***	12
Strychnos henningsii	Loganiaceae	***umnonono***	12
Talinum caffrum	Portulacaceae	***uphuncuka***	39
Trichilia dregeana	Meliaceae	***isibara, umkhuhlu***	46
Tritonia lineata	Iridaceae	***isilawu esibomvu***	44
Tulbaghia violaceae	Liliaceae	***umwelela, itswele lomlambo***	36
Vernonia mespilifolia	Asteraceae	***uhlunguhlungu***	49
Xysmalobium orbiculare	Apocynaceae	***itshongwe***	51
Xysmalobium undulatum	Apocynaceae	***itshongwe***	51
Xysmalobium sp.	Apocynaceae	***intsema***	54

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