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MEDICINAL PLANTS CULTIVATED IN BAPEDI TRADITIONAL HEALERS HOMEGARDENS, LIMPOPO PROVINCE, SOUTH AFRICA

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Abstract

Background: Plants used for medicinal purposes are very common feature in Bapedi traditional healer's home-gardens, but information about their diversity and application is not available.
Materials and methods: To investigate medicinal plants found in Bapedi healer's home-gardens, 51 traditional health practitioners were interviewed using a semi-structured questionnaire in 17 municipalities of the Limpopo Province of South Africa, during the first half of 2013.
Results: A total of 43 plant species (67.4% indigenous and 32.5% exotics) from 32 families, mostly from the Asteraceae and Apocynaceae (9.3% each) were documented. Species cultivated in home-gardens were used to treat three major groups of ailments that include sexually transmitted infections (44.1%), chronic diseases of life style (44.1%) and reproductive ailments (32.5%). The exotics *Catharanthus roseus* (54.9%) and *Carica papaya* (15.6%) was the most cultivated. Threatened (11.6%) and protected (6.9%) species are also present in home-gardens, mostly due to their unavailability in natural areas.
Conclusion: This study concludes that the practice of cultivating medicinal plant species in home-gardens is a positive development that in the long term will sustain both species and accompanying indigenous knowledge, as well as preserve the cultural identity of the Bapedi.

Key words: Bapedi, traditional healers, home-gardens, herbal medicines.

Introduction

Africans have used traditional medicines for many centuries. Thus, it has become an integral part of their culture (Van Wyk et al., 1997). Approximately 80% of the South African population uses traditional remedy at some stage in their life for health care needs (Brandt and Muller, 1995). Furthermore, an estimated 27 million South Africans are spending between four and six percent of their annual income on traditional medicine (Mander, 1998) and traditional healer's services (Van Wyk et al., 1997). Traditional healers are consulted in preference to, or in addition to Western medical doctors, especially in the rural areas were modern health care services are unavailable (Cunningham, 1989).

It is common practice for African traditional healers to collect their plants from communal open-access natural veld (Magoro, 2008), as there is a perception among both healers and patients that home grown plants "lose their healing power" quickly or are utterly ineffective (Prins, 1996). However, in response to the combined impacts of declining supplies of plant material due to overexploitation, increasing demands caused by an escalating population growth and global trade markets (Amponsah et al., 2002), traditional healers are opting to increasingly cultivate plants of medicinal value in their home-gardens to sustain their practices (Wiersum et al., 2006). These plants are initially harvested from the wild and then transplanted in traditional healer's home-gardens (Akan et al., 2008).

A number of studies (Caron, 1995; High and Shackleton, 2000; Kumbi, 2007) have highlighted home-gardens as diverse agro-forestry systems and regard them as important *ex situ* conservation sites. According to Kumar and Nair (2004), medicinal plants which are extinct, rare or endangered in wild habitats are conserved in home-gardens by traditional healers, medicinal plant traders and local rural people. The scarcity of medicinal plants in natural habitats has shifted the interest of ethno-botanist to equally focus on both wild and home grown medicinal plants, in an attempt to fully document users' medicinal plant knowledge.

Several ethno-botanical studies (Agelet et al., 2000; Havinga, 2006; Kayode, 2006; Bussmann et al., 2008; Milow et al., 2010; Kala, 2010) have noted that indigenous knowledge of medicinal plant utilization lie more with plants in home-gardens than with plants in natural habitats. In South Africa a significant number of studies (Wiersum et al., 2006; Zobolo and Mkabela, 2006; De Wet et al., 2008; Nemudzudzanyi et al., 2010; Molebatsi et al., 2010) focusing on different ethnic groups confirmed this notion. However, nothing is known of medicinal species found in Bapedi homegardens. The Bapedi is the largest ethnic group in the mostly rural Limpopo Province of South Africa (Lodge, 2005). The current study, therefore aimed at documenting some of the medicinal plants and associated knowledge found in Bapedi traditional healers home-gardens.

Methodology

Study area

The study was carried out in 17 local municipal of Capricorn, Sekhukhune and Waterberg districts (Figure 1 and Table 1) of Limpopo Province. These districts were selected due to the fact that they have the highest number of Bapedi, residing in them.

Table 1: Surveyed municipal districts and local municipalities.

Capricorn district		Sekhukhune district		Waterberg district	
Aganang	**A**	Elias Motsoaledi	**F**	Bela-Bela	**L**
Blouberg	**B**	Fetakgomo	**G**	Lephalale	**M**
Lepelle-Nkumpi	**C**	Groblersdal	**H**	Modimolle	**N**
Molemole	**D**	Makhuduthamaga	**I**	Mogalakwena	**O**
Polokwane	**E**	Marble Hall	**J**	Mookgophong	**P**
		Tubatse	**K**	Thabazimbi	**Q**

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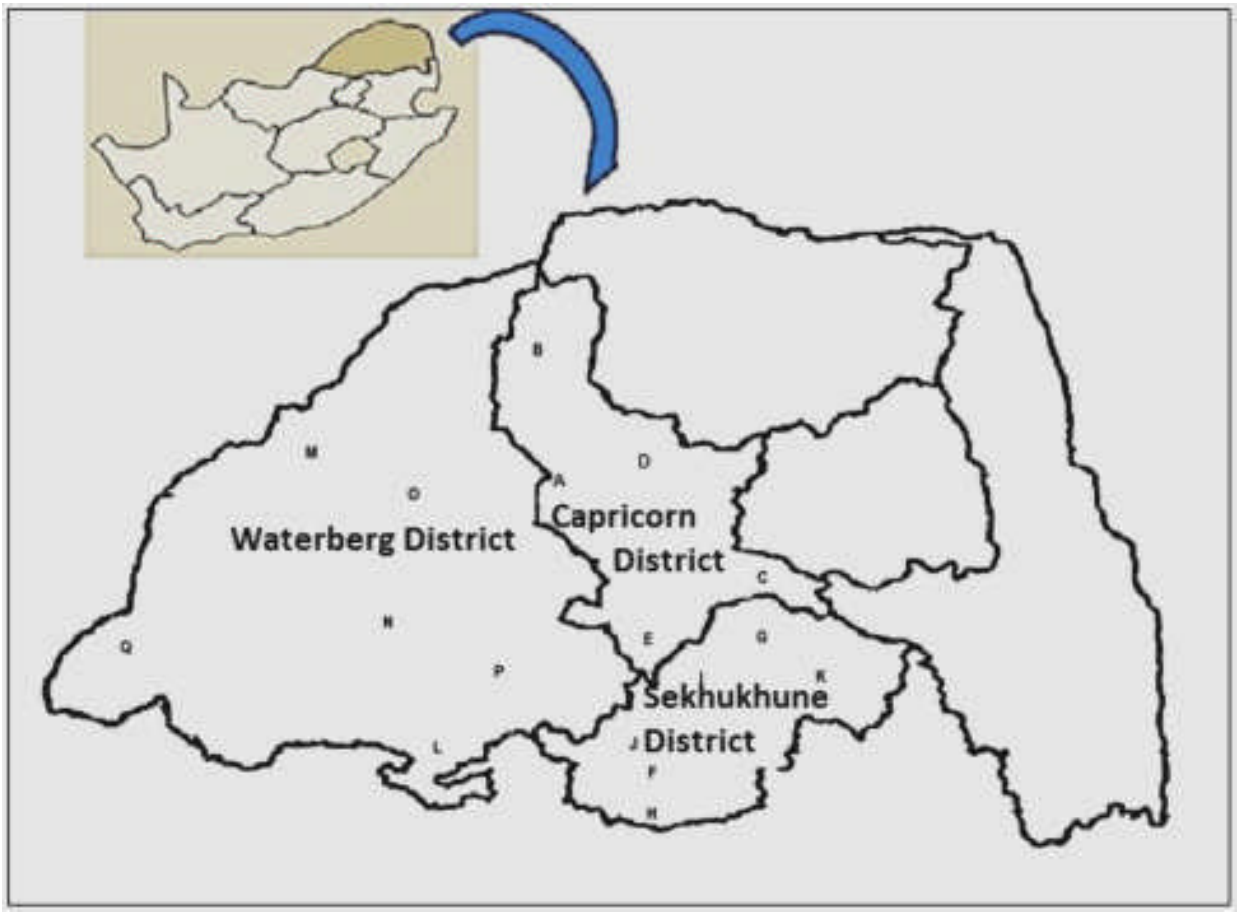

Figure 1: Study area: Capricorn, Waterberg and Sekhukhune districts, Limpopo Province, South Africa. A–Q on figure 1 and Table 1 designates the involved municipalities.

Ethno-botanical surveys and data gathering

A survey of home-garden-based medicinal plants was carried out during first quarter of 2013; the summer time in South Africa. This survey period aided the correct identification of species, and the recording of the maximum possible number of species. A semi-structured questionnaire was administered to 51 randomly selected traditional healers (three per local municipality). This questionnaire was designed to gather data on the diversity and richness of home-grown medicinal plants, their growth form, part/s used, and the ailment/s treated using these plants. The objective of the study was explained in Sepedi, local language, and a written informed consent was obtained from each healer before the interview commenced.

After the administration of the questionnaire, the home-garden of the respective healer was visited to verify some of the information gathered from the questionnaire and to collect voucher specimens. Voucher specimens have been deposited at the Larry Leach Herbarium, University of Limpopo.

Data analysis

All the data collection forms were thoroughly checked by researchers for completeness and reliability. Descriptive statistics such as frequencies and proportions were used for the analysis of the quantitative data, and MS Excel was used in formatting tables.

Results

Diversity of plant species in home gardens

A total of 43 plant species from 32 families were documented as being used by the Bapedi traditional healers to treat 12 human ailments (Table 2). The highest number of these species belongs to the Asteraceae and Apocynaceae (9.3% each) families. Cultivation of species by

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Bapedi healers is due to their scarcity in natural habitats, easy access, for emergency purposes, and their dual use as medicine and as ornamentals, food and shade providers.

Indigenous vs exotic plant species

The vast majority (68%) of Bapedi healers prefers to grow indigenous species above exotic plant species (32.5%). The cultivation of exotics species by these healers is primarily due to the fact that they are well adapted to local areas, grow faster than indigenous species, and can be successfully cultivated with minimal human input.

Critical species

Almost 6.9% of the species found in the surveyed home-gardens are protected by South Africa's National Forest Act no. 84 of 1998. These species include *Boscia albitrunca* Gilg & Gilg-Ben., *Elaeodendron transvaalense* (Burtt Davy) R.H.Archer and *Sclerocarya birrea* (A.Rich.) Hochst.

Threatened species (11.6%) documented included *Dioscorea sylvatica* Eckl., *Drimia elata* Jacq., *Eucomis pallidiflora* Baker. subsp. *pole-evansii* (N.E.Br.) Reyneke, *Gethyllis namaquensis* (Schönland) Oberm. and *Hypoxis hemerocallidea* Fisch., C.A.Mey. & Avé-Lall. These species appear on the South African National Red Data List of plants, with *D. sylvatica* and *E. pallidiflora* subsp. *pole-evansii* appearing as near threatened, *D. elata* as data deficient, *G. namaquensis* as vulnerable and *H. hemerocallidea* as declining.

Inventory of selected species

Nineteen percent of species in the current study are used to treat more than one ailment. This includes *G. namaquensis* (chlamydia and diabetes mellitus), *Opuntia ficus-indica* Mill. (Diabetes mellitus and gonorrhoea), *D. elata* (female infertility, gonorrhoea, impotence, HIV/AIDS and hypertension), *E. pallidiflora* subsp. *pole-evansii* (chlamydia and impotence), *H. hemerocallidea* (gonorrhoea and HIV/AIDS), *Hypoxis iridifolia* Baker (chlamydia and diabetes mellitus) and *Persea americana* Mill. (Diabetes mellitus and Hypertension). Amongst the 43 plant species documented in this study; *Catharanthus roseus* (L.) G. Don. (54.9%) and *Carica papaya* L. (15.6%) were the most cultivated species.

Plant habit

Three growth forms; herbs, shrubs and trees were found in Bapedi home-gardens. Amongst these forms, trees made up 51.1% of the total number of species. This was followed by herbs (39.5%) and shrubs (9.3%).

Utilization category

Analysis of disease categories treated with the 43 plant species documented in the present survey revealed three categories; sexually transmitted infections (STIs), reproductive aliments (RA) and chronic diseases of life style (CDLs). *Drimia elata* is the only species that was used to treat all three categories of diseases. However, most of the species in home-gardens were used to treat STIs (44.1%) and CDLs (44.1%).

Discussion

Diversity of species in home-gardens

Forty three plant species belonging to 32 families were documented to being used by the Bapedi traditional healers to treat 12 human ailments. The high number of plant species documented is an indication of their degree of reliance on home grown plants for the treatment of different diseases. The main reasons for their cultivation are; (i) their scarcity in natural habitats (ii) easy access to this resource, (iii) for emergency purposes, and (iv)their dual use as medicine and as ornamentals, food and shade providers. Some of these reasons also apply to various other ethnic groups of South Africa (Wiersum et al., 2006 for the Xhosa; Molebatsi et al., 2010 for the Tswana) and elsewhere in Africa (Gebauer, 2005 in Sudan; Simbo, 2010 in Cameroon). Nevertheless, the above mentioned reasons would let one to believe that the Bapedi put a high premium on home-gardens due to its potential to provide multi-needs at proximity, a function that is lacking with natural habitats. Thus it comes as no surprise to observe the high levels of diversity and richness in Bapedi traditional healer's home-gardens.

Most of the species in the surveyed gardens belongs to the Asteraceae and Apocynaceae (9.3% each) families. Again this comes as no surprise as these families was previously reported by various ethno-botanical studies (Bussmann, et al., 2008; Molebatsi et al., 2010; Maroyi, 2012) as being highly domesticated. Their extensive utilization and cultivation by Bapedi healers might be linked to their active compounds. For instance, a number of species from the Apocynaceae (Siddiqui et al., 2010; Elya et al., 2012) and Asteraceae (Niño et al., 2006; Frida et al., 2008) have terpenoids, tannins, glycosides, saponins and anthraquinones that are useful for curing various diseases.

Indigenous vs exotic species

Nearly sixty eight percent of Bapedi traditional healers prefer to grow indigenous species as opposed to exotics (32.5%). This finding is largely in line with those found for other cultures in South Africa, notably the Xhosa of the Eastern Cape (Wiersum et al., 2006), and the Zulu (Nemudzudzanyi et al., 2010). The extensive domestication of indigenous species by Bapedi and other tribal healers might be due to their perception as safe, a result of long term familiarity and experimentation. This is in contrast to the relatively short time period that exotics have been in local areas.

Use and cultivation of exotic species by Bapedi traditional healers for medicinal purposes is a reflection of their value in the traditional healing profession. Bapedi healers ascribe cultivation of exotic species to the fact that they are well adapted to local areas, grow faster than indigenous species, and can be successfully cultivated with minimal human input.

Although Izidine et al. (2008) cautioned that the heavy reliance on exotics species might threaten tribal custodianship of indigenous species; Njoroge et al. (2004) argued that their cultivation is a suitable option for decreasing the over-dependence on wild species. Equally, Semenya et al. (2012) noted that extensive utilization of exotics might allow wild indigenous species to recuperate and enhance regional biodiversity.

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Table 2: Medicinal species found in Bapedi homegardens.

Family	Species name	Vernacular name	Voucher Number	Habit	Used part/s	Aliment/s treated	Utilization category	Species occurrence
Agavaceae	**Agave americana* L.	Mobepi	SS 02	Shrub	Leaf	Hypertension	CDLs	3.9%
Aizoaceae	*Carpobrotus edulis* (L.) L. Bol.	Lepolomo la go naba	SS 98	Herb	Leaf	Diabetes mellitus	CLs	1.9%
Aloaceae	*Aloe arborescens* Mill.	Kgopha ya fase	SS 59	Herb	Root	HIV/AIDS	STIs	1.9%
Amaryllidaceae	*Gethyllis namaquensis* (Schonland) Oberm.	Naka tsa tholo	SS 83	Herb	Bulb	Chlamydia & diabetes mellitus	STIs & CDLs	3.9%
Anacardiaceae	*Sclerocarya birrea* (A.Rich.) Hochst.	Morula	SS 1	Tree	Bark	Female infertility	RA	3.9%
Apocynaceae	**Catharanthus roseus* (L.) G. Don	Lepolomo le le pinki la drop	SS 33	Herb	Root	Gonorrhoea	STIs	54.9%
Apocynaceae	**Gomphocarpus fruticosus* (L.) Aiton f. subsp. *fruticosus*	Mosotsapoo	SS 101	Shrub	Root	Impotence	RA	3.9%
Apocynaceae	**Plumeria obtusa* L.	Mohlare wa maswi wa sukiri	SS 95	Tree	Leaf	Diabetes mellitus	CDLs	9.8%
Asclepiadaceae	*Sarcostemma viminale* Wall. ex Decne.	Mokwerekwere o mogolo	SS 106	Tree	Root	HIV/AIDS	STIs	1.9%
Asteraceae	**Artemisia annua* L.	Mohlaswapatla	SS 43	Herb	Root	Impotence	RA	3.9%
Asteraceae	*Bidens pilosa* L.	Mophodisa/	SS 241	Herb	Root	Menstrual disorder	RA	3.9%
Asteraceae	*Geigeria aspera* Harv. var. *aspera*	Makgonatsohle	SS 310	Herb	Root	Period pains	RA	3.9%
Cactaceae	*(c) *Opuntia ficus-indica* Mill.	Motloro	SS 90	Tree	Root	Diabetes mellitus & gonorrhoea	CDLs & STIs	7.8%
Capparaceae	*Boscia albitrunca* Gilg & Gilg-Ben.	Mohlophi	SS 300	Tree	Root	HIV/AIDS	STIs	1.9%
Caricaceae	**Carica papaya* L.	Mophopho	SS 70	Tree	Root	Abortion, diabetes mellitus & hypertension	RA & CDLs	15.6%
Celastraceae	*Elaeodendron transvaalense* (Burtt Davy) R.H.Archer	Monamane	SS 32	Tree	Root	HIV/AIDS	STIs	1.9%
Cucurbitaceae	*Momordica balsamina* L.	Mothwatwa	SS 99	Herb	Root	Diabetes mellitus	CDLs	5.8%
Cyperaceae	*Cyperus papyrus* L.	Mohlaka	SS 97	Herb	Whole plant	Menstrual disorder	RA	3.9%
Dioscoreaceae	*Dioscorea sylvatica* Eckl.	Unknown	SS 11	Herb	Root	Gonorrhoea	STIs	1.9%
Dracaenaceae	*Sansevieria hyacinthoides* (L.) Druce	Makgotse	SS 199	Herb	Root	HIV/AIDS	STIs	1.9%
Euphorbiaceae	*Euphorbia maleolens* E.Phillips	Rofa bja tau	SS 226	Herb	Whole plant	HIV/AIDS	STIs	7.8%
Euphorbiaceae	*Euphorbia ingens* E.Mey. ex. Boiss.	Mohlohlokgomo	SS 34	Tree	Stem	Breast cancer	RA	5.8%
Fabaceae	*Peltophorum africanum* Sond.	Mosehla	SS 13	Tree	Bark	Post partum	RA	5.8%
Fabaceae	*(c) *Sesbania punicea* (Cav.) Benth.	Mokgabane	SS 82	Shrub	Root	Menstrual disorder	RA	3.9%
Hyacinthaceae	*Drimia elata* Jacq.	Sekanama	SS 18	Herb	Bulb	Female infertility, impotence, gonorrhoea, HIV/AIDS, hypertension	RA, STIs & CDLs	13.7%
Hyacinthaceae	*Eucomis pallidiflora* Baker. subsp. *pole-evansii* (N.E.Br.) Reyneke	Mathubadifala	SS 355	Herb	Bulb	Chlamydia & impotence	RA & STIs	5.8%
Hypoxidaceae	*Hypoxis hemerocallidea* Fisch., C.A.Mey. & Avé-Lall.	Sesogadi	SS 115	Herb	Tuber	Gonorrhoea & HIV/AIDS	STIs	7.8%
Hypoxidaceae	*Hypoxis iridifolia* Baker	Monna maledu	SS 68	Herb	Tuber	Chlamydia & diabetes mellitus	STIs & CDLs	9.8%
Lauraceae	**Persea americana* Mill.	Moafokhathe	SS 92	Tree	Root	Diabetes mellitus &	CDLs	7.8%

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						hypertension		
Leguminosae	*Burkea africana* Hook.	Monatlo	SS 60	Tree	Root	Gonorrhoea	STIs	1.9%
Lythraceae	**Punica granatum* L.	Mokgarenate	SS 73	Tree	Root	Diabetes mellitus	CDLs	3.9%
Moraceae	**Ficus carica* L. subsp. rupestris (Hausskn.) Browicz (Dncir)	Mofeiye	SS 89	Tree	Root	Diabetes mellitus	CDLs	3.9%
Moringaceae	*Moringa oleifera* Lam.	Makgonatsohle	SS 65	Tree	Seed & leaf	Diabetes mellitus	CDLs	7.8%
Myrtaceae	*(c) *Psidium guajava* L	Mokwaba	SS 408	Tree	Root	Hypertension	CDLs	1.9%
Proteaceae	*Protea caffra* Meisn.	Unknown	SS 341	Tree	Seed	Chlamydia	STIs	1.9%
Rosaceae	**Prunus persica* (L.) Batsch var. *persica*	Moperekisi	SS 84	Tree	Root	Impotence	RA	5.8%
Rosaceae	*Eriobotrya japonica* (Thunb.) Lindl.	Unknown	SS 311	Tree	Leaves	Hypertension	CDLs	1.9%
Rutaceae	*Zanthoxylum capense* Harv.	Senokomaropa	SS 511	Tree	Root	HIV/AIDS	STIs	1.9%
Rutaceae	*Zanthoxylum humile* (E.A.Bruce) P.G.Waterman	Monokwane	SS 19	Tree	Root	HIV/AIDS	STIs	3.9%
Sapindaceae	*Dodonaea angustifolia* Thunb.	Mofentshe	SS 117	Tree	Root	HIV/AIDS	STIs	1.9%
Sapotaceae	*Mimusops zeyheri* Sond.	Mmupudu	SS 53	Tree	Leaf	Diabetes mellitus	CDLs	13.7%
Solanaceae	**Capsicum chinese* L.	Mopherefere	SS 40	Herb	Root	Period pains	RA	3.9%
Verbenaceae	*(c) *Lantana camara* L.	Sebabane	SS 324	Shrub	Root	Hypertension	CDLs	5.8%

KEY: *: Exotic species, *(c): CARA listed exotic species, STIs: Sexually transmitted infections, CDLs: Chronic diseases of life style, RA: Reproductive ailments.

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Critical species

Surveyed home-gardens contained both protected and threatened species. Twenty percent of the species found in the gardens are protected by South Africa's National Forest Act no. 84 of 1998. These species include *Boscia albitrunca* Gilg & Gilg-Ben., *Elaeodendron transvaalense* (Burtt Davy) R.H.Archer and *Sclerocarya birrea* (A.Rich.) Hochst. Cultivation of *S. birrea* (colloquial known as marula) in home-gardens is common in South Africa (High and Shackleton, 2000), due to the alcoholic beverage that can be made from its fruit. In general, cultivation of protected species by Bapedi healers is perceived as suitable option for sustaining the supply of medicinal material due to their scarcity in natural communal areas. This initiative will in the long term benefit the natural ecosystem as it reduces the harvesting pressure for medicinal purposes on wild resources.

The same is true of threatened species such as *Dioscorea sylvatica* Eckl., *Drimia elata* Jacq., *Eucomis pallidiflora* Baker. subsp. *pole-evansii* (N.E.Br.) Reyneke, *Gethyllis namaquensis* (Schönland) Oberm. and *Hypoxis hemerocallidea* Fisch., C.A.Mey. & Avé-Lall., found in Bapedi healers' homegardens. These species appear on the South African National Red Data List of plants, with *D. sylvatica* and *E. pallidiflora* subsp. *pole-evansii* appearing as near threatened, *D. elata* as data deficient, *G. namaquensis* as vulnerable and *H. hemerocallidea* as declining. These species are commonly found in Zulu (Ndawonde, 2006) and Xhosa (Wiersum et al., 2006) traditional healers home gardens. Although these studies and the present study found that their cultivation is predominantly linked to their growing shortage in the wild habitats, Wiersum et al. (2006) noted a worrying new trend where medicinal plant cultivation is less based on preserving biodiversity, and more on generating income.

Inventory of selected species

Nearly 19% of species found in Bapedi home-gardens are used to treat more than one ailment. This includes *G. namaquensis* (chlamydia and diabetes mellitus), *Opuntia ficus-indica* Mill. (diabetes mellitus and gonorrhoea), *D. elata* (female infertility, gonorrhoea, impotence, HIV/AIDS and hypertension), *E. pallidiflora* subsp. *pole-evansii* (chlamydia and impotence), *H. hemerocallidea* (gonorrhoea and HIV/AIDS), *Hypoxis iridifolia* Baker (chlamydia and diabetes mellitus) and *Persea americana* Mill. (diabetes mellitus and hypertension). The presence of multi-used species in Bapedi home-gardens is good from a conservation point of view, as it reduces multi-harvesting pressure of the same species in natural veld. Furthermore multi-purpose species in small home-gardens also conserve space in these gardens so that other medicinal species with different uses can be grown, thus increasing the diversity of home-garden species and further reducing the pressure of harvesting wild species.

Amongst the recorded species in this study, two exotics; *Catharanthus roseus* (L.) G. Don. (54.9%) and *Carica papaya* L. (15.6%) was the most cultivated. The distinct cultivation of *C. roseus* doesn't seem to be a unique Bapedi trait. This species occurres in more than 30% of Zulu home-gardens in the Esikhawini area of KwaZulu-Natal, South Africa (Nemudzudzanyi et al., 2010), and in more than 20% of Tswana home-gardens in the Tlhakgameng and Ikageng villages in Northwest Province, South Africa (Molebatsi et al., 2010). The preference of *C. roseus* by Bapedi healers stems from its high tolerance of different abiotic conditions, and its brightly-coloured flowers that are favoured for ornamental purposes.

Similar to *C. roseus*, the widespread cultivation of *C. papaya* for medicinal purpose is not restricted to Bapedi traditional healers, Nemudzudzanyi et al. (2010) indicated that it also occurs in more than 40% of Zulu home-gardens. Cultivation by Bapedi healers is due to its multi-use in the treatment of an array of diseases (Table 2), and its fruits that is both edible and tradable.

Plant habit

Trees made up 51.1% of the total number of plant species found in Bapedi traditional healers home-gardens. This was followed by herbs (39.5%) and shrubs (9.3%). The dominance of trees is because they are multi-used for various purposes such as shading, food, windbreaks and aesthetics. They also allow for the cultivation of a number of herbaceous species under their cooler and wetter canopy. Cultivation of herbaceous species by Bapedi is generally linked to their relatively ease of cultivation and provision of quick yields. Furthermore, *Drimia elata*, *D. sylvatica*, *E. pallidiflora* subsp. *pole-evansii*, *G. namaquensis*, *D. elata*, *G. namaquensis* and *H. hemerocallidea* are cultivated by Bapedi traditional healers because of their scarcity in natural veld.

Cultivation of the exotics *Gomphocarpus fruticosus* subsp. *fruticosus*, *Latana camara* and *Sesbania punicea* hinges on their brightly coloured-flowers and evergreen nature, thereby serving both as medicine and ornamental. It's reasonable to speculate that the limited cultivation and utilization of some exotic shrubs as medicine by Bapedi traditional healers might relate to their recent introduction in South Africa.

Utilization category

Three categories of diseases; sexually transmitted infections (STIs), reproductive aliments (RA) and chronic diseases of life style (CDLs) are mostly treated by Bapedi traditional healers using the 43 documented species from home-gardens (Table 2). *Drimia elata* is the only species that was used by these healers to treat all three categories of diseases. This finding is not surprising, as a single species can possess various chemical compounds that have the potential to cure more than one ailment.

Most of the species in Bapedi home-gardens were used to treat STIs (44.1%) and CDLs (44.1%), this perhaps is an indication of the prevalence of these diseases amongst people in the studied areas. The large number of species employed to treat these diseases clearly reflects the diversity of treatment protocols used by Bapedi healers. Furthermore it also indicates that a number of alternative species, such as *D. elata*, and *Z. humile* instead of *H. hemerocallidea* for STIs, and *M. balsamina* instead of *M. zeyheri* for CDLs are used to treat these diseases, which ensures that treatment options are always available.

Conclusion

The present study revealed that Bapedi traditional healers indigenous knowledge of medicinal plants resides in their home-gardens, due to a scarceness of wild species. This positive shift will contribute to the preservation of indigenous knowledge, traditional healing as a profession, and ultimately cultural identity. Thus it would seem that the negative perception of home-grown medicinal plants is waning. This opens up the possibility of establishing community-based nurseries that could provide much needed employment to the rural poor.

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