An ethnobotanical survey of medicinal plants in the southeastern Karoo, South Africa

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Abstract

Ethnobotanical field studies in the Graaff-Reinet and Murraysburg regions (southeastern Karoo) have revealed a wealth of traditional knowledge on medicinal plants and their uses amongst elderly people of Khoi-San and Cape Dutch decent. The materia medica includes at least 86 species, most of which appear to be still in everyday use. The use of exotic plants (12 species) and similarities with the Xhosa healing culture show that the traditional system is dynamic and adaptive. Medicines to treat problems of the stomach, back, kidneys, bladder, as well as colds and other minor ailments have a high frequency. Mixtures of different plants are often used. An overview of the most important plants and their uses is presented, which shows several interesting records that have hitherto remained undocumented. These include new uses, new vernacular names and new medicinal plants (Abutilon sonneriatum, Aloe striata, Eberlanzia spinosa, Helichrysum pumilio, Osteospermum herbaceum, Pachypodium succulentum, Pelistomum cf. origanoides, Pentzia punctata, Rhigozum obovatum and Stapelia olivaea). New records of plants that are locally commonly used (e.g. H. pumilio and O. herbaceum) confirm that the medical ethnobotany of the Karoo is incompletely recorded.

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Keywords: Cape Dutch culture; Ethnobotanical survey; Khoi-San culture; Medicinal plants; Phytotherapy; Southeastern Karoo

1. Introduction

As was pointed out by Liengme (1983), Metelerkamp and Sealy (1983) and Van Wyk (2002), very little information has been recorded on the traditional plant uses of the Khoikhoi and San cultures. Most studies have focused on plants used for food and moisture (e.g. Story, 1959; Steyn, 1981), although there have been a few papers on the Nama (Archer, 1990, 1994) and the Topnaar Khoi in Namibia (Van den Eynden et al., 1992). The almost complete lack of systematic ethnobotanical records for the Western Cape and Karoo regions of South Africa is noteworthy. Available information is scattered in the general literature (e.g. Watt and Breyer-Brandwijk, 1962; Smith, 1966; Rood, 1994; Shearing, 1994; Van Wyk and Gericke, 2000). Of historic interest is the paper by Laidler (1928), which

Table 1

<table>
<thead>
<tr>
<th>Name of expert</th>
<th>Geographical origin</th>
<th>Origin of knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piet Cupido (PC)</td>
<td>Murraysburg (originally Richmond)</td>
<td>Personal experience only</td>
</tr>
<tr>
<td>Sally Goliath (SG)</td>
<td>Graaff-Reinet (originally Cradock)</td>
<td>Mother</td>
</tr>
<tr>
<td>Jan Oomeyer (JO)</td>
<td>Graaff-Reinet</td>
<td>Grandfather (a healer)</td>
</tr>
<tr>
<td>Andries Salomon (AS)</td>
<td>Murraysburg</td>
<td>Mr Van Eck (a healer of Victoria West)</td>
</tr>
<tr>
<td>Kiewiet (“Hottie”)</td>
<td>Murraysburg (the traditional jackal hunter)</td>
<td>Mother (Lena Louw, a healer)</td>
</tr>
<tr>
<td>Steenkamp (KS)</td>
<td>Graaff-Reinet</td>
<td>Grandmother (a healer and mother (herbalist))</td>
</tr>
<tr>
<td>Poppie Teo (PT)</td>
<td>Graaff-Reinet</td>
<td>Mother</td>
</tr>
<tr>
<td>Abraham Wessels (AW)</td>
<td>Graaff-Reinet</td>
<td>Mother</td>
</tr>
<tr>
<td>Ernest Williams (EW)</td>
<td>Graaff-Reinet</td>
<td>Mother</td>
</tr>
</tbody>
</table>

Abbreviations as used in Table 2 (and elsewhere in the text) are given in brackets.

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<table>
<thead>
<tr>
<th>Scientific name, family and common name(s), [voucher specimen]</th>
<th>Anecdote or use(s)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Abutilon sommeriannum</em> (Cav.) Sweet (Malvaceae); <em>berg se witlap agglage</em>; [HdW 72]</td>
<td>JO: madness (severe nervous conditions) — smoke a cigarette made from the leaves mixed with the styles (beard) of sweetcorn; “it breaks the madness”.</td>
<td></td>
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<tr>
<td><em>Agathosma ovata</em> (Thunb.) Pillans (Rutaceae); <em>boegoe</em></td>
<td>AS: colds; KS: back pain, asthma and kidney failure (“niersstuipe”). Poorly recorded (Batten and Bokelman, 1966; Courtenay-Latimer et al., 1967; Dyson, 1994).</td>
<td>Roots are used in Zulu medicine (Cunningham,1998; Hutchings et al., 1996).</td>
</tr>
<tr>
<td><em>Aloe ferox</em> Mill. (Asphodelaceae); <em>aalwyn</em></td>
<td>AS: for general ailments, female ailments (unspecified) and colds. EW: colds — mix ash with Vaseline and apply directly. KS: dry, bruised leaves as tea (taken in the morning and evening). AS: colds and stomach problems. KS: colds — leaves (tea), with some honey ( EW: confirmed by AW and SG).</td>
<td>Important traditional diuretic, emetic and purgative, first recorded by Thunberg (1772–74) (Forbes, 1986) and later by (Watt and Breyer-Brandwijk, 1962; Batten and Bokelman, 1966; Smith, 1966; Rood, 1994; Van Wyk et al., 1997; Thring and Weitz, 2006). The species is widely used as a traditional remedy (Phillips, 1917; Watt and Breyer-Brandwijk, 1962; Smith, 1966; Palmer, 1985; Ellis, 1989; Archer, 1990; Roberts, 1992; Archer, 1994; Dyon, 1994; Rood, 1994; Shearing, 1994; Van Wyk et al., 1997; Thring and Weitz, 2006).</td>
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<tr>
<td><em>Aptosimum procumbens</em> (Lehm.) Steud. (Scrophulariaceae); <em>brandbossie</em></td>
<td>AS: for adults, steep like tea (confirmed by AW and SG). KS: bruise and apply to wound (confirmed by AW and SG). The practice of using heated leaves of this species to treat sores on fingers was recorded and described by Smith (1966) and confirmed by Shearing (1994). Watt and Breyer-Brandwijk (1962) mentioned the use of <em>A. variegatum</em> to treat haemorrhoids. A wide diversity of medicinal uses (both oral and topical) has been described for <em>Aptosimum</em> species. Several species are used in traditional medicine (especially to treat tuberculosis). Various magical uses (Watt and Breyer-Brandwijk, 1962; Smith, 1966; Shearing, 1994).</td>
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<td><em>Artemisia afra</em> L. (Asphodelaceae); <em>wildeals</em>; [HdW 84]</td>
<td>AS: for general ailments, female ailments (unspecified) and colds. EW: whole plant boiled and drunk (confirmed by AW and SG).</td>
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<tr>
<td><em>Ballota africana</em> L. (Lamiaceae); <em>kattekruid</em>— [HdW 69]</td>
<td>AS: general malaise — drink an infusion of the powdered roots (not very bitter); also for stomach problems (then add violet). For diarrhea — mix with koorshout. Leaves are not used. EW: high blood pressure (“koorshout” — deep root; “gastrointestinal”) — it is included in a systematic account of ethnobotanical uses of the family Menispermacae in South Africa (De Wet and Van Wyk, 2008) but no details were given on how C. capensis is used in the southeastern Karoo.</td>
<td></td>
</tr>
<tr>
<td><em>Boophone disticha</em> [HdW 52]</td>
<td>AS: to treat sore throat, stomach ulcers and painful lungs. EW: oral throat and mouth sores — eat the seeds (confirmed by AW and SG). PT: oral throats, mouth sores or sore throat — chew the leaves.</td>
<td>Several uses are known (Watt and Breyer-Brandwijk, 1962; Smith, 1966; Coates Palgrave, 1977; Mabogo, 1990; Shearing, 1994; Hutchings et al., 1996; Von Koenen, 2001). The astringent sap of <em>Carpolobus</em> species has a well-recorded history of use against sore throat, oral thrush, mouth ulcers and skin ailments (e.g. Watt and Breyer-Brandwijk, 1962; Wright, 1963; Courtenay-Latimer et al., 1967; Archer, 1994; Matsiliza and Barker, 2001) reported the topical use of root scrapings to treat pain.</td>
</tr>
<tr>
<td>Scientific name, family and common name(s); [voucher specimen]</td>
<td>Anecdote or use(s)</td>
<td>Notes</td>
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<tr>
<td><strong>19. Conyza scabrida DC. (Asteraceae); Donoudou; [HdW 56, 77]</strong></td>
<td>AS: used by women (unspecified); also used for a weak heart. EW: women problems &quot;(to draw cold from a woman's stomach)&quot; — leaves were used for steaming of genitals or drank as a tea (pure or mixed with wild oats) (confirmed by AW and SG). JO: women’s ailments, to clean the uterus — use a whole branch, boil in a pot of water, bathe in the warm infusion, cover the whole body with a blanket (to perspire) and then drink some of the infusion. KS: colds, headache — infusion with ballerja; also used orally by pregnant women and to clean the uterus after birth. PT: for problems with female genitals — drink tea (with ballerja).</td>
<td>Conyza scabrida is widely known as <em>soutbox</em> (e.g. Thing and Weitz, 2006) because the leafy branches were formerly much used to sweep the ash from ovens. Medicinal uses were apparently first recorded by Shearing (1994) and more recently also, among others, by Shearing (1994), Rood (1994), Huttinga et al. (1996) and Thing and Weitz (2006). These sources all confirm the information presented here.</td>
</tr>
<tr>
<td><strong>20. Dianthus micropetalus Ser. (Caryophyllaceae); grashoutjie; grashout; [HdW 70, 91]</strong></td>
<td>EW: angina — boil root in water, add a burnt porcupine quill and drink. JO: anesthetic chest — the whole plant is boiled in water and the steam inhaled to open the chest.</td>
<td>A new record of possible thirst- and appetite-suppressant effects (see Hoodia). Several other uses have been recorded (Watt and Breyer-Brandwijk, 1962; Huttinga et al., 1996). The uses of <em>Dianthus species</em> are poorly recorded (Watt and Breyer-Brandwijk, 1962; Shearing, 1994) but they are important traditional remedies of the Karoo region. Traditional uses have been recorded by Mabogo (1990) and by Van Wyk and Gericke (2000).</td>
</tr>
<tr>
<td><strong>21. Dicoma cuspidis Less. (Asteraceae); karmokd, vëris, vyfpondob; [HdW 62]</strong></td>
<td>EW: angina — drink infusion of stem tips. EW: back pain — drink tea (whole plant) twice a day.</td>
<td>One of the most important of all the Karoo medicinal plants (Watt and Breyer-Brandwijk, 1962; Archer, 1994; Shearing, 1994; Van Wyk et al., 1996; Van Wyk et al., 1997; Von Koenen, 2001) even though it does not feature and localized distribution area in South Africa (Pappe, 1850; Watt and Breyer-Brandwijk, 1962; Smith, 1966; Palmer, 1985; Roberts, 1992; Rood, 1994; Shearing, 1994; Palmer, 1995; Van Wyk et al., 1997; Thing and Weitz, 2006).</td>
</tr>
<tr>
<td><strong>22. Diospyros astros-africana De Winter (Ebenaceae); jakkalbos</strong></td>
<td>KS: insomnia and bad dreams — burn leaves in the fire and inhale the smoke — it calms you down; headache — smoke the dried root. KS: ringworm — boil the leaves and wash head or apply burnt and powdered leaves to the affected ares. AS: cold, influenza, back pain — infusion of leafy tips (can be used with kwanaam).</td>
<td>The leafy young twigs (<em>yzerhouttoppie</em>) are an important, Khoikhoi medicine that is also used in other parts of Africa (e.g. Dyckman, 1891; Watt and Breyer-Brandwijk, 1962; Archer, 1998; Tadese and Denissenew, 1992; Pooley, 1993; Van Wyk and Gericke 2000; Thing and Weitz, 2006). This appears to be a new record of medicinal use.</td>
</tr>
<tr>
<td><strong>23. Duodea angustifolia L.f. (Sapindaceae); yzerhouttoppie</strong></td>
<td>EW: angina — decoction of the leaves (drink like tea with some sugar). AS: cough — drink infusion of stem tips. EW: back pain — drink infusion of young stems. JO: weak legs or cums in legs — wash legs with a decoction of the tips. KS: severe colds, influenza, whooping cough — drink an infusion and inhale steam. PC: influenza — drink an infusion and inhale the smoke from burning plants (close the doors and windows of the house, i.e. fumigate the house); this treatment was used by him and his family member saved him and his family from the Spanish flu of 1918. EW: to &quot;ripen&quot; meals — drink an infusion of kapokbos, karoobs and the droppings of an angora goat. JO: chest ailments in children — make an infusion of the seed hairs and a few green twigs, add a few drops of &quot;harlemensive&quot;, place in a bag and apply to chest. PT: cold — drink an infusion of kapokbos with bitterbors.</td>
<td>Kapokbos is relatively well-known as a traditional remedy (Watt and Breyer-Brandwijk, 1962; Hobson et al., 1970; Kellerman et al., 1988; Roberts, 1992; Van Wyk et al., 1997). This appears to be a new record of medicinal use although <em>Euphorbia</em> latex is known as a treatment to remove warts (e.g. Rood, 1994).</td>
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<tr>
<td><strong>24. Elytropappus rhinocerotis (L.f.) Less. (Asteraceae); renosterbos</strong></td>
<td>AS: cough — drink infusion of stem tips (confirmed by AW and SG). JO: diabetes (&quot;bloedsuiker&quot;) — drink tea (roots) every morning (before breakfast). PT: for babies (better than grape water) — tea from roots (in turns bright red).</td>
<td>Several medicinal uses in other parts of Africa (Watt and Breyer-Brandwijk, 1962; Jacot Guillarmod, 1971; Shearing, 1994). Geigeria species are poisonous to small stock (Kellerman et al., 1988, 2005; Van Wyk et al., 2002). Flowering <em>G. polysiphon</em> is poisonous to small stock (Shearing, 1994). Medicinal uses of <em>Geigeria</em> species listed by (Githens, 1948; Watt and Breyer-Brandwijk, 1962; Batten and Bokelman, 1966; Hobson et al., 1970; Hubberg and Staugård, 1989; Le Roux et al., 1994; Shearing, 1994; Van Wyk et al., 1997; Von Koenen, 2001). <em>Helichrysum pumilio</em> appears to be newly recorded here even though it is a well-known and widely used remedy in the eastern parts of the Karoo. <em>H. linearis</em> is used in the same way.</td>
</tr>
<tr>
<td><strong>25. Elytropappus rhinocerotis (L.f.) Less. (Asteraceae); renosterbos</strong></td>
<td>KS: infertility in women — drink an infusion of a small leafy twig.</td>
<td>Several medicinal uses in other parts of Africa (Watt and Breyer-Brandwijk, 1962; Jacot Guillarmod, 1971; Shearing, 1994). Geigeria species are poisonous to small stock (Kellerman et al., 1988, 2005; Van Wyk et al., 2002). Flowering <em>G. polysiphon</em> is poisonous to small stock (Shearing, 1994). Medicinal uses of <em>Geigeria</em> species listed by (Githens, 1948; Watt and Breyer-Brandwijk, 1962; Batten and Bokelman, 1966; Hobson et al., 1970; Hubberg and Staugård, 1989; Le Roux et al., 1994; Shearing, 1994; Van Wyk et al., 1997; Von Koenen, 2001). <em>Helichrysum pumilio</em> appears to be newly recorded here even though it is a well-known and widely used remedy in the eastern parts of the Karoo. <em>H. linearis</em> is used in the same way.</td>
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<tr>
<td><strong>26. Elytropappus rhinocerotis (L.f.) Less. (Asteraceae); renosterbos</strong></td>
<td>KS: infertility in women — drink an infusion of a small leafy twig.</td>
<td>Several medicinal uses in other parts of Africa (Watt and Breyer-Brandwijk, 1962; Jacot Guillarmod, 1971; Shearing, 1994). Geigeria species are poisonous to small stock (Kellerman et al., 1988, 2005; Van Wyk et al., 2002). Flowering <em>G. polysiphon</em> is poisonous to small stock (Shearing, 1994). Medicinal uses of <em>Geigeria</em> species listed by (Githens, 1948; Watt and Breyer-Brandwijk, 1962; Batten and Bokelman, 1966; Hobson et al., 1970; Hubberg and Staugård, 1989; Le Roux et al., 1994; Shearing, 1994; Van Wyk et al., 1997; Von Koenen, 2001). <em>Helichrysum pumilio</em> appears to be newly recorded here even though it is a well-known and widely used remedy in the eastern parts of the Karoo. <em>H. linearis</em> is used in the same way.</td>
</tr>
</tbody>
</table>
37. *Hermannia cuneifolia* Jacq. (Sterculiaceae); kwaaiman

38. *Hermannia glabrata* L. [= *H. linearis* (Harv.) Hochst.3] (Sterculiaceae) kwaaiman [HdW 85]

39. *Hoodia pilifera* (L.) Flowers subsp. *pilifera* (Apocynaceae); ghaap

40. *Hyrcanum* (concretions of rock hyrax urine); *dassiepoot, kliopenwet*

41. *Kedrostis nama* (Lam.) Cogn. var. *zeberc* (Schrad.) A.Meuse (Cucurbitaceae); kalmooes, bitterhout; [HdW 64]

42. *Losia* sp. (Thunb.) Druce (Asteraceae); gamskweek [HdW 89]

43. *Leontospermum callistemon* (L.) Cogn. var. *serratum* (Lam.) A.Meeuse (Cucurbitaceae); bitterhout; [HdW 93]

44. *Lessertia inflata* (Burm.f.) Iwarsson (Lamiaceae); *gaskweek* [HdW 93], [HdW 58, 80]

45. *Melianthus comosus* Vahl (Melianthaceae); *koppiegras*; [HdW 58]

46. *Momordica balsamina* L.f. (Asteraceae); *wildeals* [HdW 59, 80]

47. *Mentha longifolia* (L.) E.H.觉醒 subsp. *capensis* (Lamiaceae); *balderja*

48. *Monardella macunna* L. (Lamiaceae); stinktontel; [HdW 65]

49. *Momordica balsamina* L. (Cucurbitaceae); without, *dhavana* [HdW 65]

50. *Oncosiphon pilifera* (L.f.) *K"ellers* (Asteraceae); *stinkkuurd*; [BvW 4086, BvW 4086]

51. *Oxysternon herba* L.f. (Asteraceae); *stinkkuurd*; [BvW 4082, HdW 61, 76]

**Table 2 (continued)**

- *Hermannia cuneifolia* Jacq. (Sterculiaceae);— infusion of a leafy twig (it burns the throat, hence *kwaaiman* "angry man"). *J.O.* to "ripen" influenza and to loosen phlegm — use an infusion of one twig of "the one with red flowers ("maul") and one twig of "the one with yellow flowers ("fondle"); it burns the throat. KS: colds and asthma. PT: colds ("it burns like pepper").

- *Hermannia glabrata* L. [= *H. linearis* (Harv.) Hochst.3] (Sterculiaceae) kwaaiman [HdW 85]

- *Hoodia pilifera* (L.) Flowers subsp. *pilifera* (Apocynaceae); ghaap

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- *Monardella macunna* L. (Lamiaceae); stinktontel; [HdW 65]

- *Momordica balsamina* L. (Cucurbitaceae); without, *dhavana* [HdW 65]

- *Oncosiphon pilifera* (L.f.) *K"ellers* (Asteraceae); *stinkkuurd*; [BvW 4086, BvW 4086]

- *Oxysternon herba* L.f. (Asteraceae); *stinkkuurd*; [BvW 4082, HdW 61, 76]

**The traditional uses of *Hermannia* species are poorly known although several have been recorded as medicinal plants (Watt and Breyer-Brandwijk, 1962; Smith, 1966; Hobson et al., 1970, Rood, 1994; Shearing, 1994). The common name seems to be published here for the first time.**

This appears to be a new, independent record of the thirst- and appetite-suppressant effects of *Hoodia* species.

**Koeb Sporting species are occasionally referred to as *daudwa* or *wensentlepel* and may therefore be confused with *Cissampelos pareira* (Watt and Breyer-Brandwijk, 1962; Smith, 1966). Matuliza and Barker (2001) reported that a root decoction of *K. nama* is used to treat diabetes. Several uses have been recorded (Phillips, 1917; Watt and Breyer-Brandwijk, 1962; Batten and Bokelman, 1966; Jacot Guillaumod, 1971, Roberts, 1992) but it is toxic to livestock (Kellerman et al., 1988, 2005; Van Wyk et al., 2002).

There appears to be no published record of medicinal uses for this species.

**Several Leontospermum species are well-known as medicinal plants (Smith, 1895; Githens, 1948; Watt and Breyer-Brandwijk, 1962; Rood, 1994).**

**Medicinal uses of *L. fenestratum* (Fenzl) *Heimerl* *et* *L. vicozum* (Goy) Fenzl have been recorded by Redin (1895) in Namibia. The custom to twist a stick in a pot of saponin-containing infusions (a form of pot-pot-potentizing) and then to drink the resultant white foam is commonly practiced by Xhosa and other Nguni-speaking people. Known as "ubulao" ("white pants"); this custom is not well-recorded in the scientific literature. It may be speculated that the addition of plant saponins to a mixture increases the possibility that active compounds will be dissolved and absorbed.**

**The only previous reference to this species is by Watt and Breyer-Brandwijk (1962) who stated that the plant is pungtive. This is an interesting, independent confirmation of the close relationship between *Leontospermum* species and the genus *Sutherlandia*. The name *vicozum* has been recorded for the closely related *L. tomentosa* DC. (Smith, 1966), one of several plants traditionally used to treat sore eyes. The dark brown to black nectar is eaten by children and it is said to resemble black coffee in appearance and taste (hence the Afrikaans common name *koofbloem*). It is widely used in wound treatment and there are numerous published anecdotes (Smith, 1895; Steyn, 1934; Wilman, 1946; Githens, 1948; Watt and Breyer-Brandwijk, 1962; Smith, 1966; Palmer, 1985; Kellerman et al., 1988; Roberts, 1992; Rood, 1994; Shearing, 1994; Hutchings et al., 1996; Van Wyk et al., 1997; Von Koenen, 2001; Kellerman et al., 2005).**
<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Local name</th>
<th>Uses</th>
<th>Notes</th>
</tr>
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<tbody>
<tr>
<td>52. <em>Pachypodium succulentum</em> (L.) Sweet (Apocynaceae); <em>skilpadbos</em> [H&amp;W 71]</td>
<td>JO: stomach ulcers — soak a piece of root in lukewarm water and drink the bitter infusion. EW: siphylis in men — drink infusion like tea. PT: back pain and kidney trouble.</td>
<td></td>
<td>No medicinal uses appear to have been recorded for this species (Arnold et al., 2002).</td>
</tr>
<tr>
<td>53. <em>Parnwelia</em> species (Pameliaceae); <em>klipblom</em></td>
<td>EW: ranache — use fresh leaves as ear plugs.</td>
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highlighted some unique features of Khoikhoi traditional medicine. A sociological study of medicinal plant use by elderly “coloureds” by Ferreira (1987) included a few botanical details. A recent study by Thring and Weitz (2006) gives a valuable description of medicinal plant use by the so-called “coloured” population group in the Bredasdorp/Elim region of the Western Cape Province of South Africa.

As a further contribution towards a more comprehensive insight into Khoi-San ethnomedicine, a rapid ethnobotanical appraisal was conducted in the Graaff-Reinet and Murraysburg districts of the southeastern Karoo. This area, which is situated near the Sneeubergen, was the traditional home of a Khoikhoi group known as the Inqua. The Dutch explorer Isaq Schrijver met with chief Heijkon, the leader of the Inqua, on 19 February 1689 (Elphick, 1985; Boonzaier et al., 1996). It is possible that the rich folklore of medicinal plants of the region is rooted in the Inqua culture, perhaps with influences from the south (the area of the Damasqua) and also from the east, the area of the Gonaqua, a mixed Khoikhoi–Xhosa group that lived in clay houses (Elphick, 1985; Boonzaier et al., 1996). A preliminary

Table 3

<table>
<thead>
<tr>
<th>Scientific name, family and common name(s), voucher specimen in square brackets</th>
<th>Anecdote or use(s)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Artemisia absinthium L. (Asteraceae); groenamara</td>
<td>AS: diarrhoea — leaves as tea (bright green colour, very bitter).</td>
<td>The name groenamara is more commonly used for Vernonia oligocephala (DC.) Sch.Bip. ex Walp. (Smith, 1966).</td>
</tr>
<tr>
<td>2. Atriplex nummularia Lindl. (Chenopodiaceae); soutbos</td>
<td>KS: diarrhoea — drink a leaf infusion.</td>
<td>Medicinal uses have been recorded for this species in Australia (Maiden, 1889 in Arnold et al., 2002).</td>
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<tr>
<td>3. Cannabis sativa L. (Cannabaceae); dagga</td>
<td>JO: chest ailments — drink tea made from the leaves.</td>
<td>Wild tobacco is responsible for animal and human fatalities but is also commonly used in traditional medicine (Walsh, 1931; Steyn, 1934; Watt and Breyer-Brandwijk, 1962; Gelfand et al., 1985; Kellerman et al., 1988; Archer, 1990; Van den Eynden et al., 1992; Archer, 1994; Mavi, 1994; Rood, 1994; Shearing, 1994; Van Wyk and Gericke, 2000; Von Koenen, 2001; Van Wyk et al., 2002; Kellerman et al., 2005).</td>
</tr>
<tr>
<td>4. Datura stramonium L. (Solanaceae); olieboom</td>
<td>KS: chest ailments — dry leaves are powdered, mixed with tobacco and used to make a cigarette (said to “open the lungs”).</td>
<td></td>
</tr>
<tr>
<td>5. Glycyrrhiza glabra L. (Fabaceae); soethoutjie</td>
<td>AS: tonic for old people.</td>
<td></td>
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<tr>
<td>7. Nicotiana glauca Graham (Solanaceae); wilde twak</td>
<td>EW: headache — apply fresh leaves to the head as a poultice (“it draws out the pain”).</td>
<td></td>
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<tr>
<td>8. Petroserina crispum (Mill.) A.W. Hill. (Asteraceae); pieterselie</td>
<td>EW: bladder problems and to expel the placenta — drink like tea.</td>
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<tr>
<td>9. Polygonum aviculare L. (Polygonaceae); liitjesgras</td>
<td>JO: to remove a persistent umbilical cord — make an infusion of the whole plant and bathe the affected area of the baby (“works within a day”). PT: angina — stir an infusion of the thin roots to make foam — drink the foam.</td>
<td></td>
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<tr>
<td>10. Rosmarinus officinalis L. (Lamiaceae); roosmarnyn</td>
<td>EW: chest problems, asthma and diabetes — drink like tea.</td>
<td></td>
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<tr>
<td>11. Ruta graveolens L. (Rutaceae); wynruit</td>
<td>JO: stomachache — drink like tea (sometimes the leaves are placed in a cloth and tied to the waist as repellent and disinfectant). KS: colds — drink a leaf infusion. PT: stomachache — drink a leaf infusion.</td>
<td>Wynruit has become an important part of the South African healing tradition and is mentioned or described in numerous publications (Watt and Breyer-Brandwijk, 1962; Smith, 1966; Roberts, 1983; Palmer, 1985; Roberts, 1985; Rood, 1994; Palmer, 1995; Van Wyk et al., 1997; Thring and Weitz, 2006). Uses of the exotic S. babylonica in southern Africa are listed by Watt and Breyer-Brandwijk (1962) and Shearing (1994). The drought-tolerant S. molle is widely grown as a shade tree in the Karoo and has become part of the local materia medica (Wilman, 1946; Watt and Breyer-Brandwijk, 1962; Smith, 1966).</td>
</tr>
<tr>
<td>12. Salix babylonica L. (Salicaceae); wiggeboom bas</td>
<td>AS: fever — drink an infusion of the bark.</td>
<td></td>
</tr>
<tr>
<td>13. Schinus molle L. (Anacardiaceae); peperboom</td>
<td>EW: fever in children — place leaves in a cloth and apply to the stomach of the child. KS: headache — place fresh leaves with vinegar in a cloth and apply to the head.</td>
<td></td>
</tr>
<tr>
<td>14. Urtica urens L. (Urticaceae); brandnetel, brandneuker</td>
<td>JO: burn wounds — apply the dried, powdered leaf. PT: chest ailments — drink an infusion of fresh leaves in the morning and evening.</td>
<td>This is another example of a widely used medicine plant (Van Wyk and Wink, 2004) that has become part of the South African materia medica (Watt and Breyer-Brandwijk, 1962; Smith, 1966; Palmer, 1985; Shearing, 1994; Hutchings et al., 1996; Von Koenen, 2001).</td>
</tr>
</tbody>
</table>
A survey of medicinal plants in the Grahamstown area (Matsiliza and Barker, 2001) is of interest, as it allows a comparison between this predominantly Xhosa area and the much more arid adjoining Karoo region. The aim of our study was not an exhaustive list of all medicinal plants and their uses, but rather to identify the most important plants still in everyday use within the communities. We also wished to evaluate the assumptions that there is a rich but dwindling knowledge on medicinal plants, that uses and treatments would relate mainly to those species readily available within the study area and that the traditional knowledge of the region has remained poorly recorded. A systematic documentation of medicinal plant use in an area not previously studied seemed important to us in view of the rapid pace of urbanization and acculturation that also affect the more remote Karoo regions of South Africa.

2. Methodology

The survey was conducted in the districts of Graaff-Reinet and Murraysburg, two small Karoo towns situated near the boundary between the Western Cape, Northern Cape and Eastern Cape Provinces of South Africa. All fieldwork was done during November 2001 and January 2002, but two of us (HdW and FRvH) grew up in Graaff-Reinet and Murraysburg respectively and were therefore familiar with the local people and some of the traditional plant uses in the region. We used the rapid appraisal approach, and interviewed several local experts as listed in Table 1. The use of a common language (Afrikaans) allowed us to capture and accurately record subtle nuances that would normally be lost during interpretation and translation.

Herbarium voucher specimens were collected of all except the most common and well-known species and are kept in the herbarium of the University of Johannesburg (JRAU). Plants were identified by a trained taxonomist (one of us, B-EvW). All identifications were verified by comparison with herbarium material in JRAU and in some cases the National Herbarium in Pretoria (PRE). The literature review and checklist of Arnold et al. (2002) is a useful source of references to the recorded medicinal uses of many of the species.

3. Results and discussion

Information on a total of 86 species of medicinal plants encountered during the survey is recorded and briefly discussed in Tables 2 and 3. Hylaceum (the excretion of rock rabbits), and a lichen (Parmelia species) are also included. Names are given alphabetically by scientific name, together with family name, local name (in Afrikaans), and voucher specimen number [BvW] = B-E. Van Wyk; [HdW] = Helene de Wet. Non-indigenous species are listed separately in Table 3. For each species, the various uses (indications) as given by the key participants are listed. At the risk of repetition, uses are given exactly as they were recorded, in order to allow evaluation of the importance and accuracy of the information. For some plants, all participants were in exact agreement, while uncertainty about the exact use is evident in others. Each entry is usually followed by a short discussion, highlighting the novelty value of the anecdote and possible new uses that have not been recorded before, together with a list of critical literature references.

A wide diversity of plants is still used in the eastern Karoo region to treat a relatively limited number of indications. Many of the plants are widely distributed and well-known as important medicinal plants. A total of 86 plant species, one lichen and one other remedy (hylaceum) were recorded. Of these, 74 are indigenous (Table 2) and 14 are exotics (Table 3), showing that the traditional medicinal system in the region is adaptive and dynamic. Dold and Cocks (1999) also found that exotic plants are commonly used in “traditional” medicine. Similarly, De Wet (1998) found that medicines from other cultures are readily incorporated into the local materia medica, even in urban areas. There is some evidence of a Xhosa influence from the east. Examples are the use of Pittosporum viridiflorum bark — known locally by the Xhosa name "kwenkwe"; the use of Boophone disticha bulb scales and the stirring up of foam (see Liumeum aethiopicum and Polygonum aviculare). Many of the remedies can be considered as general health tonics, used to treat weakness and unspecified ailments. Medicines to treat problems of the stomach, back, kidneys, bladder and other minor ailments also have a high frequency. It is interesting to note that a mixture of different plants is often used.

There are some interesting new records of plants that are locally important and widely used in the study area but which have apparently never been recorded before in the scientific literature. Noteworthy example are Aabution sommariatum, Aloe striata, Eberlaniza spinosa, Helichrysum pumilio, Osteospermum herbaceum, Pachypodium succulentum Peliosomum cf. origanoides, Pentzia punctata, Rhigozum obovatum and Stapelia olivae. There are also several interesting new uses that were recorded for well-known medicinal plants, as well as several new Afrikaans vernacular names that do not appear in standard references such as Smith (1966) and Powrie (2004). The value of independent confirmation of known uses as supporting evidence, as well as additional anecdotes for well-known medicinal plants should not be underestimated.

The new records of commonly used medicinal plants revealed by this study (e.g. Helichrysum pumilio and Osteospermum herbaceum) show that the medical ethnobotany of the Karoo is incompletely recorded and that there is an urgent need to document traditional knowledge before it is lost forever. The information presented here, incomplete as it may be, could be helpful in future attempts to provide a more complete synthesis of Khoi-San ethnomedicine.

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References


