Journal of Ethnopharmacology 119 (2008) 331–341

Contents lists available at ScienceDirect

Journal of Ethnopharmacology

journal homepage: www.elsevier.com/locate/jethpharm

Review

A review of Khoi-San and Cape Dutch medical ethnobotany

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ARTICLE INFO

Article history:
Received 26 May 2008
Received in revised form 15 July 2008
Accepted 17 July 2008
Available online 25 July 2008

Keywords:
Cape herbal medicine
Ethnobotany
Khoikhoi
Medicinal plants
San
South Africa

ABSTRACT

Ethnopharmacological context: Cape herbal medicine as a distinct and unique healing system is conceptualized for the first time, together with a first compilation of the authentic *materia medica* of the system.
Materials and methods: The early literature on Khoikhoi (Hottentot), San (Bushman) and Cape Dutch medicinal plants and medical practices is reviewed, with a focus on the Cape Floristic Region (from Namaqualand to the Eastern Cape). To avoid recent additions and modern cultural influences in the results, the date of publication of the last volume of Marloth's Flora of South Africa (1932) was chosen as a cut-off date.
Results: The recorded Cape *materia medica* (up to 1932) is briefly summarized, giving the scientific names, vernacular names (in Afrikaans or Khoi-San/Nama) and main uses. It comprises about 170 items and includes mainly indigenous and endemic plant species, some exotic (garden) plants, and a few other items (fungi, seaweeds, lichens, *hyraceum* and natural potassium nitrate). Most of the plants (and *hyraceum*) are still widely used today, especially in rural areas.
Conclusions: The combination of unique cultural practices and a diverse, highly endemic flora has led to the development of a distinct herbal healing system, here called Cape herbal medicine, but hitherto rather vaguely and inaccurately referred to as Khoi-San medicine, Cape Dutch medicine or *boererate* (farm remedies). The data allows for a more informed consideration of indigenous knowledge and intellectual property rights associated with particular plants (e.g. *Hoodia* and *Pelargonium*). It also offers opportunities for linking modern ethnobotanical field studies with historical data.

Contents

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doi:10.1016/j.jep.2008.07.021

1. Introduction

The Cape Floral Kingdom or Cape Floristic Region is widely recognized as one of the richest floras of the world (Good, 1974; Goldblatt and Manning, 2000). The relatively small area of 90,000 km^2 has a total of about 9000 indigenous plant species, of which almost 69% are endemic (Goldblatt and Manning, 2000). The region is also part of the traditional home of Khoikhoi or Khoekhoe (Hottentot) herders, and San (Bushman) hunter–gatherers (Shapera, 1930; Boonzaier et al., 1996). These highly diverse cultural groups are sometimes collectively and simplistically referred to as the Khoi-San people. In the second half of the 17th century, the region became inhabited by Europeans, mainly of Dutch, German and French descent. Through geographical isolation, these people developed into a cultural group known as the Cape Dutch and later as Cape Afrikaners. The interactions between Khoi-San and Cape Dutch peoples also resulted in a distinct but poorly studied healing culture, known as Khoi-San or Cape Dutch medicine. The diverse flora of the region, with its high level of endemism, contributed greatly towards the uniqueness of the *materia medica*.

As pointed out by Liengme (1983) and Van Wyk (2002), the ethnobotany of the Khoikhoi people is poorly recorded. There are numerous publications on the San (Bushman) of the Kalahari (Tobias, 1960, 1975) but the emphasis has been on plants used for food and water (Story, 1958, 1964), utility items (Tanaka, 1978) or hunting poisons (Neuwinger, 1994, 1996). Medicinal plants and their uses have remained poorly known despite recent books by Von Koenen (1996, 2001) and Van Wyk and Gericke (2000), both of which contain summaries of available information from Namibia and Botswana. Examples of other detailed studies in Namibia are those of Malan and Owen-Smith (1974) for Kaokoland, Heinz and Maguire (1974) for the !Ko Bushmen, Steyn (1981) on !Nharo plant utilization, and Dentlinger (1977) and Van den Eynden et al. (1992) for the Topnaar (!Nara) culture. A valuable list of Damara (Nama) plant names was published by Eiseb et al. (1991).

In the Cape region of South Africa, the early Dutch settlers introduced some medicinal plants from Europe but started using the local plants. In this way, a unique medicinal culture developed that has been referred to as Cape Dutch medicine. Since the turn of the 19th century, the term Cape Dutch was no longer appropriate, as the Afrikaans language and culture (developed mainly from Dutch, French, German, Khoikhoi, San and Malay) became separate entities in their own right. Unfortunately, few of the original Khoikhoi and San names have survived (see later), so that the majority of Cape medicinal plants have Afrikaans (Cape Dutch) names. However, the term "Cape Dutch medicine" does not adequately reflect the Khoi-San origins of most of the remedies, so that "Cape herbal medicine" will be used in this review. It seems surprising that Cape herbal medicine is so poorly studied, considering the exceptionally rich botanical diversity and especially the high levels of endemism. Added to this biological diversity is also a rich indigenous cultural diversity that has unfortunately been equally poorly recorded.

Ethnobotanical information on the Cape flora may be gleaned from early traveller's accounts such as those of Van der Stel (De Wet and Pheiffer, 1979), Thunberg (Forbes, 1986) and Burchell (1822–1824), as well as colonial Floras (Harvey and Sonder, 1860 and subsequent volumes) and later Floras (Marloth, 1913–1932). These sources contain numerous references to the indigenous *materia medica* of South or southern Africa, but early books dedicated entirely to the subject of medicinal plants are limited to those of Pappe (1847, 1850, 1857), Smith (1895) and Kling (1923). The classic work of Watt and Breyer-Brandwijk (1962) summarises most of the early literature for southern and eastern Africa. The dictionary of common names of Smith (1966) is also a rich source of ethnobotanical information. The medicinal plants of the Cape region have rarely been treated as an entity on their own (see later). It should be noted that many of the Cape plants and their uses are described in books on South African herbal medicine, such as Anonymous (1962), Watt and Breyer-Brandwijk (1962), Palmer (1985), Roberts (1990), Rood (1994), Shearing and Van Heerden (1994), Van Wyk et al. (1997) and Arnold et al. (2002). The origin of the information or the place where it was recorded for the first time is hardly ever given. As pointed out by Scott and Hewett (2008), such information may be important in the context of intellectual property rights and claimed ownership of indigenous knowledge.

This review is narrowly focussed on the Cape Floristic Region, from Namaqualand to the Eastern Cape (with parts of the adjoining Karoo) but excluding the Kalahari region and Namibia. The aim is to critically analyse and interpret published and some unpublished information on the medicinal plants of Khoikhoi, San and Cape Dutch origin. In order to exclude recent influences that may have distorted the historical authenticity of the *materia medica*, the publication of the last volume of the Flora of South Africa by Marloth (1932) was chosen as a cut-off date. Marloth was a trained pharmacist with an interest in the medicinal uses of South African plants, so that his books contain several original anecdotes. The aim was therefore to contribute towards conceptualising Cape herbal medicine as a distinct healing system and to provide an historically accurate synthesis of medicinal plants (with their vernacular names), so that modern ethnobotanical field studies can be linked to historical data.

2. Khoi-San healing practices

2.1. Traditional concepts

Information on the traditional practices of the indigenous Cape people is fragmentary and scattered in the old literature—mainly in the accounts of early explorers and travellers such as Sparrman (1785), Paterson (1789) and Lichtenstein (1812–1815). Some of them contain interesting observations on medicinal practices that were collated by Shapera (1930) but there are few accurate details of plants and their uses. A systematic scrutiny of the old literature may yield useful additional information. Laidler (1928) and Archer (1990) observed Nama traditional medicine over a period of several years and provided valuable insights, some of which agree with my own observations.

Three main categories of healers may be distinguished, namely the diviner or *!gai aup* (Laidler, 1928; ! denotes the palato-alveolar click) who treats serious ailments, the herbalist or *bossiedokter* who treats minor and chronic ailments and the poison or snake doctor, who specializes in the treatment of snake bites. Diviners are still encountered in remote regions of the Kalahari and are often female. In many parts of the Cape, the herbalist is still referred to as the *bossiedokter* (a doctor that uses herbs or small bushes – "bossies" – to heal). Although many people have a sound knowledge of herbs and use them regularly, the term *bossiedokter* is a designation of honour, reserved for highly skilled and experienced herbalists.

Snake bite was traditionally one of the major threats to human life in the Cape region, mainly as a result of the high density of occurrence of the Cape cobra or *geelslang* (*Naja nivea*) and the puff adder or *pofadder* (*Bitis arietans*). A large part of the plant lore revolved around snake bite remedies but many of them have become obscure in modern times. Snake doctors daily ingested small doses of snake poison to make them immune against snake bite and perhaps to symbolically gain power over the snake. The treatment of snake or scorpion bites involved scarification of the wound and the application of specific plants, both topically as poultice and orally as

infusion or decoction (Smith, 1895; Laidler, 1928). In addition to herbs such as *dagga* or *wilde dagga—Leonotis leonurus* (L.) R.Br., the crushed snake head or scorpion were also applied to the bite.

In Khoi-San tradition, much is made of differences in the medical treatment of men and women. Laidler (1928) mentions this fact but gives no details. My observations have shown that plants (especially aromatic plants) were often classified in the San culture as either male or female. There are strong beliefs relating to the inappropriate use of plants—for example, the use of a "female plant" by a man may result in impotence or sterility. Leaf powders (*buchu*) that are mixed with fat and used as ointments are often classified as male or female. This interesting aspect is poorly recorded and deserves further study.

2.2. Massage and aromatherapy

In traditional Khoi-San healing, massage and touch therapy played an important role. Details of Nama practices were recorded by Laidler (1928). San touch therapy may have been experienced first hand by those who had the opportunity to witness a traditional San "trance dance" or *kia* ritual (Dobkin de Rios, 1986; Winkelman and Dobkin de Rios, 1989). Massage (Nama: !*kouroe*) took different forms (Laidler, 1928). Fat was rubbed into an area where pain was felt and the diviner may have passed his or her hands over the spot (to add magic to the medicine). The stomach was massaged by rolling movements of the hand in cases of amenorrhoea or infertility. !*Kouroe* also took the form of punching and kneading when pains or sprains were attended to. Another method (!*koo*) used the hand to gently transfer heat from the fire onto an affected part of the body.

Aromatherapy appears to be a characteristic feature of the San culture. It is claimed by Smith (1966) that the Khoi referred to the *San* or *Sanqua* (*Sonqua*) as the "men or people (*qua*) who anointed their bodies with bushes (*son*, *san*)", because of their habit of massaging with powdered aromatic bushes mixed with sheep fat. This habit was witnessed by my father in the Calvinia district (farm Klipwerf), at a time (ca. 1935) when there were still semi-nomadic San who regularly came around for meat and fat leftovers from the communal cooking shed. The name *Son* (plural *San*) referred to one of the preferred plants, *Pteronia onobromoides* DC., the powdered leaves of which were carried in a special tortoise shell container. The name *Sonqua* therefore directly translates to "bossieman", which became *boesman* and bushman. "Bossies" (small shrubs) are an integral part of the culture, ideom and language of the Karoo and Renosterveld regions, where this life form is dominant in the vegetation.

2.3. Dosage forms

Dosage forms that have been accurately recorded include masticatories, infusions (in water), decoctions (in water or often in milk), tinctures, poultices and snuffs. The three best-known masticatories are *kanna* or *kougoed* (*Mesembryanthemum tortuosum* L. and related species), *bosjesmansthee* [*Catha edulis* (Vahl.) Endl.] (Pappe, 1847) and *ghaap* (*Hoodia* species and various other succulent stapeliads). I first witnessed (in the Calvinia district in 1968) the eating of "ghaap" to suppress hunger. The earliest explicit record of "ghaap" being eaten to suppress hunger is that of Marloth (1932). In his discussion of *Hoodia pilifera* (L.f.) Plowes, Marloth (1932, p. 94) states: "This is the real *ghaap* of the natives, who use it as a substitute for food and water when both are scarce. The sweet sap reminds one of liquorice and, when on one occasion thirst compelled me to follow the example of my Hottentot guide, it saved further suffering and removed the pangs of hunger so efficiently that I could not eat anything for a day after having reached the camp." The use of milk to prepare decoctions of red (tannin-rich) tuberous roots [*Pelargonium antidysentericum* (Eckl. & Zeyh.) Kostel.] is also of special interest, as the interaction between the tannins in the roots and the milk proteins undoubtedly alters the physical and chemical properties of the medicine when compared to using only water. [Detailed ethnobotanical data on *Pelargonium sidoides* and other species are presented elsewhere in this issue.] Mother's milk or saliva was commonly employed for medicine given to infants. Self-medication by taking an infusion (tea, *tee*) of a wide range of plants is still popular in rural areas. In an interview in 1994, the legendary "Lappiesman" (Jan Schoeman) of the Prince Albert district in the Karoo (depicted in Oberholzer, 2002) ascribed his exceptional fitness at an advanced age to a daily (early morning) cup of *litjiestee* made from *Viscum capense* L.f. Tinctures appear to be a more recent (Cape Dutch) introduction, as only low-alcohol beverages (*karrie* or honey beer) were traditionally available. Brandy (*brandewyn*) and other forms of distilled alcohol (*witblits*) were readily available at the Cape, especially in wine-producing districts (Dykman, 1908; Cillié, 1992). Poultices are still popular, not only to treat wounds, burns and other skin ailments but also to alleviate headache and localized pain. Laidler (1928) and Archer (1990) mention the use of snuffs and the principle that sneezing is thought to "expel" the disease or ailment. Dried and powdered root of *Gomphocarpus cancellatus* (Burm.f.) Bruyns is one such medicinal snuff for treating influenza (Archer, 1990) and may be the same plant (or a relative) of the *witvergeet* (*witte vergeit*) of Laidler (1928). Few accurate details of the use of snuffs have been recorded. A comprehensive account of the traditional concepts of diseases and their treatments are beyond the scope of this review. In some of the early documents (Smith, 1895; Dykman, 1908; Kling, 1923) ailments were used as the main categories for arranging the medicinal plants species that were recorded. An interesting insight into common ailments and therapies of the Nama people is provided by Laidler (1928).

2.4. Animal products

During observations of the Nama culture over a period of 4 years, Laidler (1928) recorded the medicinal use of dried porcupine (*Hystrix africaeaustralis*) stomach (with its content), dried jackal kidney, hyena dung, dried lizard, cancer beetle, burnt ostrich egg (mixed with fat) and rock rabbit (*Procavia capensis*) urine (*hyraceum*). Some of these remedies are still used—Archer (1990) noted that animal fat, rock salts, livers of animals and the stomach content of porcupine were used in Namaqualand (Leliefontein and the Richtersveld) to "improve the potency of the medicines".

Pappe (1847) coined the term *hyraceum* for a popular Cape remedy usually referred to by the crude Afrikaans name *dassiepis* (rock rabbit urine). Typical for the rock hyrax or rock rabbit is its highly concentrated urine (an adaptation to survive in arid regions) that is deposited in localized sites in rock crevices. The animal is also able to survive on aromatic and resinous plant materials, so that the concretion of the urine (a blackish, tar-like substance) has a strong, aromatic and musky smell. Hyraceum may become fossilized with age and is chemically complex and variable (Olsen et al., 2008). Laidler (1928) recorded the Nama names //*am uru* or /*gaous* (// = lateral click, / = dental click) and the Afrikaans name *swart bo meester* (big black master). The product may gradually be converted (through the action of rain and air) into white potassium nitrate, which is called *bo meester* (grand big master) or *klipsweet* (rock sweat). The term *klipsweet* is also used for the excretions of midgets that are gathered from rocks (for medicinal use). Potassium nitrate (saltpeter) has been used in European traditional medicine as a diuretic, antipyretic and asthma medicine (Burger and Wachter, 1998). *Hyraceum* is used as an antispasmodic for stiffness in the back, back pain, stomach pain, hysteria, epilepsy and all nervous

conditions (Pappe, 1847; Dykman, 1908; Kling, 1923; Laidler, 1928). It is interesting to note that some samples have shown GABA-benzodiazepine receptor activity (Olsen et al., 2008). Decoctions and infusions are taken orally as an antidote for any type of poisoning and the product is rubbed into scarified snake bites and scorpion stings. As a tea, it is used to treat women's ailments but large doses are said to result in abortion (Laidler, 1928).

3. Khoi-San and Cape Dutch *materia medica*

3.1. Medical plants recorded before 1650

Archaeological records of plants in the form of rock paintings and engravings are quite rare, as people and animals are the dominants themes of almost all early art work. However, eight species have been recorded: *Harpagophytum procumbens* (Burch.) DC. ex Meisn., *Stapelia grandiflora* Masson, *Acacia tortilis* (Forssk.) Hayne, *Searsia lancea* (L.f.) L.A.Barkley (syn. *Rhus lancea* L.f.), *Massonia jasminiflora* Burch. ex Baker, *Boophone disticha* (L.f.) Herb (Wilman, 1968) as well as *Aloe ferox* Mill. and *Aloe broomii* Schönland (Reynolds, 1950). The cultural importance and medicinal value of these plants are still evident today. Most of them (including *Harpagophytum procumbens*) are important medicinal plants but they are not part of the Cape healing culture (see Table 1) and are therefore not discussed in detail here. *Boophone disticha* is a hallucinogenic plant of special interest in Khoi-San ethnomedicine and appears to symbolise eternal life. *Boophone* alkaloids demonstrate serotonin activity (Sandager et al., 2005). Personal observations in the Kalahari Desert strongly suggest that *Boophone disticha* is of importance in the trance dance or *kia* healing ritual, even though it is not mentioned in the literature on this subject (Dobkin de Rios, 1986; Winkelman and Dobkin de Rios, 1989). This plant deserves further study, as it is now known to be of importance in Khoi mummification. The discovery in the Kouga/Baviaanskloof area of a Khoi-San mummy (of a man) is of special interest (Binneman, 1999). The body was mummified with *Boophone disticha* bulb scales and was buried nearly 2000 (1930 ± 20) years ago.

Aloe ferox and *Aloe broomii* are depicted in San rock paintings (Reynolds, 1950), with human figures holding the plants. The yellow leaf juice of both these species contains anthraquinone glycosides with a purgative action. The dried latex of *Aloe ferox* (known commercially as "Cape aloes") has a long history of use in the Gouritz River area of the Cape and has been an item of export to Europe since 1761 (Sparrman, 1785; Marloth, 1915; Kruger and Beyers, 1977; Robertson, 1979; Forbes, 1986). The rock paintings leave no doubt that *Aloe ferox* and *Aloe broomii* were important plants in the San culture.

Another approach to identifying the plant species used by early Khoi-San people in the Cape is to study plant remains from archaeological excavations and cave deposits. Analyses of plant remains, often dominated by geophytes such as *Watsonia* and *Hypoxis* species, are available for Scott's Cave (Wells, 1965), De Hangen (Parkington and Poggenpoel, 1971) and Melkhoutboom Cave (Deacon, 1976). These studies may contribute towards a better understanding of plant use patterns in general.

3.2. Medicinal plants recorded up to 1932

The emphasis of this review is on herbal remedies of the Cape (i.e., the Cape fynbos area and adjacent Karoo regions) that have been accurately recorded up to 1932. One of the major problems in interpreting the fragmented early records is the fact that vernacular names are given in the Khoi language or mostly in Afrikaans, or a mixture of the two.

Important contributions were made by botanical explorers during the Dutch era (Scott and Hewett, 2008), notably the Swedish botanist, C.P. Thunberg. The first detailed account of Cape herbal medicine was published by Pappe (1847, 1850, 1857). Other important sources of information are Smith (1888, 1895), Dykman (1891, 1908), Marloth (1913–1932), Kling (1923) and Laidler (1928). Pappe (1847) was the first to give an extensive list of "Cape Dutch" plant uses, mainly focussed on the immediate surrounds of Cape Town. The information in Dykman (1891, 1908) is of special interest, as it represents a compilation of Cape farm remedies (*boererate*) collected as recipes from (now obscure) popular literature and unpublished anecdotes over a period of many years. Herbs were mostly used in mixtures and all plant names were given in Afrikaans only. It is important to note the high incidence of plant combinations in the recommended treatments of Dykman (1908). Such mixtures, with their potential value to produce additive or even synergistic effects (Viljoen et al., 2003), have hardly received any scientific attention until recently. Kling (1923) was based in the town of Tulbagh, so his review (also in Afrikaans) is restricted to Cape plants. The various Flora volumes of Marloth (1913–1932) are more accessible (in English) and have a much wider coverage, both geographically and taxonomically. Laidler (1928) gives important insights into traditional medicine in Namaqualand but several of the plants were not accurately identified. The work of Archer (1990, 1994) also made an important contribution for Namaqualand. Additional information exists for the Nieuwoudtville area and the Clanwilliam–Citrusdal districts (Metelerkamp and Sealy, 1983; Van Wyk et al., unpublished). For the area known as the Little Karoo (*Kannaland*), valuable information has been collected by the Kleinplasie Farm Museum at Worcester (Cillié, 1992; Vergoes Houwens, undated; Wileman, undated) and the Montagu Museum (Montagu Museum, 1998). Medicinal plant uses in the Karoo are mentioned by Shearing and Van Heerden (1994). Thring and Weitz (2006) made an important contribution for the Bredasdorp/Elim region, known as the Southern Overberg. Smith (1888, 1895) provided a scientifically accurate review of plant uses in the Grahamstown region of the Eastern Cape Province, which is supplemented by the recent review of Matsiliza and Barker (2001). Since Smith (1895) usually distinguished between Khoikhoi and Xhosa (Nguni) plant uses, it was possible to restrict the entries in Table 1 to the former. A recent survey of medicinal plant use in the Murraysburg and Graaff–Reinet districts of the eastern Karoo (Van Wyk et al., 2008) has also helped to interpret the information given by Smith (1895).

A total of about 170 plant species has been recorded from the Cape region up to 1932 (Table 1). Table 1 gives the currently accepted scientific names (following Germishuizen and Meyer, 2003), as well as the original vernacular names in Afrikaans and/or Khoi/Nama. For older synonyms, Germishuizen and Meyer (2003) should be consulted, while Smith (1966) and Powrie (2004) are useful sources of information on vernacular names. The information in Table 1 is of value in comparing current plant use patterns in the Cape region with the historical record. The following five broad and partly overlapping categories of species can be distinguished in Table 1 (these are indicated in square brackets in column 1), namely 1, Cape-endemic plants that are still in everyday use by rural communities in the Cape region; 2, South African plants with a wide distribution that are also traditionally used in the Sotho and Nguni cultures. These include *Aloe ferox*, *Artemisia afra*, *Boophone disticha*, *Bulbine* species, *Dodonaea angustifolia*, *Euclea* species, *Gunnera perpensa*, *Helichrysum* species, *Leonotis leonurus*, *Pelargonium sidoides*, *Sansevieria aethiopica*, *Sutherlandia frutescens*, *Teucrium* species, *Withania somniferum* and *Xysmalobium undulatium*; 3, species of commercial importance or that are currently under development as new products. These include *Agathosma betulina*, *Agathosma crenulata*,

Table 1
Khoi-San and Cape Dutch *materia medica* (as recorded in literature up to 1932), with traditional uses and key sources of information

Species (those still commonly used in the Cape in bold); *indigenous but not Cape; **exotic species [use category]	Common names (Khoi/Nama names underlined)	Main uses (original references should be consulted for more accurate and exact descriptions of uses and dosage forms)	References
Acacia karoo Hayne [2]	*doringboom*	Gum (Cape gum, heyra); emulcent, salve; bark for diarrhoea and dysentery	P1–3; D; K; L
Adiantum aethiopicum L. [4]	*vrouwehaar*	Herb; cough, respiratory ailments	T
Agathosma betulina (P.J. Bergius) Pillans [1, 3]	*boegoe*, buchu. *letulina*, *bookoo*	Leaves; kidney and bladder ailments; diuretic, tonic; leaves in vinegar for wounds, sprains and contusions	B3; P1–3; D; K; L
Agathosma crenulata (L.) Pillans [1, 3]	*boegoe*, buchu.	As above	As above
****Allium cepa*** L. [5]	*ui*	Bulb; as warm poultices (*uiepap*); glandular swellings	D; K
****Allium sativum*** L. [5]	*knoffel*	Bulb; nausea, sores, cough, fever	D
Aloe africana Mill. [4]	*aalwyn*	Juice taken as laxative	P1–3
Aloe ferox Mill. [2, 5]	*aalwyn*, *bitteraalwyn*	Juice taken as laxative	P1–3; S; K; L; M2
Aloe plicatilis (L.) Mill. [4]	*aalwyn*	Juice taken as laxative	P1–3
Aloe variegata L. [4]	*kanniedood*	Fresh leaf; whitlow	D
Annesorhiza species [4]	*anyswortel*	Root tincture; flatulence	K
Arctopus echinatus L., ***Arctopus monacanthus*** Carmichael ex Sond. [1]	*sieketroos(t)*, *platdoring*	Tuberous root; demulcent, diuretic; syphilis (mixed with rabas), gonorrhoea; general medicine; blood purifier	T; B4, P1–3; D; K; M1
Artemisia afra Jacq. ex Willd. [2]	*wildeals*, *wilde-als*, *als*, *alsem*	Leaves; tonic, antispasmodic, anthelmintic; various uses; colds, influenza, cough, fever; eye drops	P1–3; S; D; K
****Artemisia absinthium*** L. [5]	*groenamara*	Leaf; stomach ailments	D
Asclepias crispa P.J.Bergius [2]	*bitterhout(jie)*, *bitterwortel*	Root; diuretic, stomach pain	T; P1–3; S; K; L
Aspalathus cordata (L.) R.Dahlgren [4]	*stekeltee*	Leaf infusions; asthma; diuretic	P1–3; K
Aspalathus linearis (Burm.f.) R.Dahlgren [1,3]	*rooibostee*, *bossietee*	Leaf infusions; general health tea	M3
Asparagus laricinus Burch., *Asparagus stipulaceus* Lam., *Asparagus retrofractus* L. [2]	*katdoring*(*wortels*), *t'nuance*	Roots as diuretic and to treat tuberculosis	P2–3; D; K; L
Athanasia cuneifolia Lam. [1]	*ghwarrieson*, *kwarison*	Herb; tintures or infusions for a weak heart	D
Ballota africana L. [1]	*kattekruie*	Leaf infusions used for colds, fever, measles, influenza	P2–3; D; K; L
Berkeya sp. [4]	*graweelwortel*	Bruised root as tincture; diuretic, gravel	P1–3; K
Berula erecta (Huds.) Coville subsp. *thunbergii* (DC.) B.L.Burtt [4]	*tandpynwortel*, *tandpynbossie*	Root (rhizome) held in mouth or chewed for toothache	P2–3; K
Boophone disticha (L.f.) Herb. [2]	*gifbol*	Bulb scales; skin diseases	B3; K
Brachylaena elliptica (Thunb.) DC. [4]	*bitterblaar*, *(-blare)*	Leaf decoctions gargled for sore throat; diabetes	S; K; W2
Bulbine alooides (L.) Willd. [2]	*rooiwortel*	Tuber; used as "blood purifier"; lumbago	S
Bulbine asphodeloides (L.) Willd. [2]	*wildekopieva*	Rhizome and roots; scrofula; juice used as styptic	S
Bulbine frutescens (L.) Willd. and other *Bulbine* species [2, 3]	*wildekopieva*, *geelkatstert*	Rhizome and roots; scrofula; juice used as styptic	S
Bulbine latifolia (L.f.) Roem. & Schult. [2]	rooiwortel	Tuber; used as "blood purifier"; lumbago	S
****Cannabis sativa*** L. [5]	*makdagga*, *rookdagga*, *dagga*	Smoke after a stroke	D
Carpobrotus edulis L.Bolus [1]	*suurvy*, *ghaukum*, *vyerank*, *nautsi amma*	Leaf juice gargled for diphtheria, sore throat, mouth infections, excessive salivation; swallowed (dysentery); burns and scalds; delayed labour, retained afterbirth	T; P1–3; D; K; L
Carpobrotus acinaciformis (L.) L.Bolus [1]	*perdevy*	As above	P1–3
Cassine peragua L. [4]	*saffraan*	Bark; snake bite	W1
Cassytha ciliolata Nees [4]	*nooienshaar*, *vrouehaar*	Hair wash, scald head (said to promote hair growth)	P1–3
Catha edulis (Vahl.) Endl. [2]	*bosjesmansthee*	Leaf, chewed or taken as tea; cough, asthma	P1–3
***Centaurea benedicta* (L.) L. [5], ***Cirsium vulgare* (Savi) Ten. [4, 5]	*karmedik*	Herb; tinctures as bitter tonic, stomachic; cough and hoarseness; treatment of internal cancers	D
Centella asiatica (L.) Urb. [2]	*varkoortjies*, *waternael*	Herb; topical to treat wounds and sores (leprosy)	P1–3; K
Centella glabrata L. [4]	*persiegras*, *persgras*	Roots and stalks; treament of chronic diarrhoea and dysentery; diaphoretic	P1–3; K
Chamarea capensis (Thunb.) Eckl & Zeyh. [4]	*chamare* (see also *gli*)	Root; carminative	V
Chenopodium ambrosioides L. [2]	*hondepisbossie*	Vermifuge; leaf juice for stomach acid	P2–3; K
Chironia baccifera L. [1]	*bitterbos*, *(-blare)*, *aambeibos*	Leaves, stems and fruits; used post-partum to expel a retained placenta; traditional Khoi medicine	K; L

Table 1 (*Continued*)

1Species (those still commonly used in the Cape in bold); *indigenous but not Cape; **exotic species [use category]	Common names 2(Khoi/Nama names underlined)	Main uses (original references should be consulted for more accurate and exact descriptions of uses and dosage forms)	References
Cissampelos capensis L.f. [1]	*dawidjies* (see *dawidjiewortel*)	Root, rhizome; emetic, purgative; tincture for dysentery, syphilis; snake bite (leaf paste, root decoction)	P1–3; D; M1; S
**Citrullus lanatus* (Thunb.) Matsum. & Nakai [2]	*wildewaatlemoen*, *ramanas*	Fresh fruit flesh (bitter) used as purgative and diuretic in dropsy	P1–3; D; K
Cliffortia illicifolia L. [4]	*doringtee*, *rysbos*	Herb; emmolient; expectorant in coughs	P1–3
Cliffortia odorata L.f. [4]	*wildewingerd*	Tips (toppe); strong infusion for haemorrhoids, amenorrhoea	D; K
Conyza scabrida DC. [syn. *Conyza ivaefolia* (L.) Less.] [2]	*oondbos*, *oondbesembos*	Herb; infusions for stomach, chest, heart. Influenza (1918); topical (steaming) for women's ailments	S
Cotula villosa DC. [4]	*kamso*, *t'kamso*	Herb; rheumatism, scalds, cutaneous eruptions	P1–3; K
Cotyledon orbiculata L. [2]	*plakkie*, *varkoor kout(e)rie(bos)*	Fresh leaves applied to remove warts; gargle for sore throat; treatment of epilepsy; warm leaf juice (earache)	P1–3; S; K
Crassula ovata (Mill.) Druce [4]	*karkay*, *t'karkai*, *karkey*	Fresh leaves boiled in milk to treat diarrhoea	P1–3; K
Crassula tetragona L. [4]	As above	Fresh leaves boiled in milk to treat diarrhoea	P1–3; K
Crassula ericoides Harv. [4]	*karkai*	Herb; fever	P1–3; K
Crassula muscosa L. [4]	*klein koorsbos*	Herb; decoction for fever (diaphoretic)	L
Crassula species [4]	Nor recorded	Leaf; dysentery	B1
Cyclopia genistoides (L.) R.Br. [1, 3]	*heuningbos(tee)*, *heuningtee*	Expectorant, restorative, treatment of "consumption"	P1–3; M3; K
Cynodon dactylon (L.) Pers. [4]	*kweekgras*, *garre*, *gari(e)s*	Rhizomes; decoctions for coughs; mixed with fat and rubbed in for gout	D; L
****Datura*** species [5]	*olieboom*, *stinkblare*	Wilted leaves as hot poultice; powdered leaf (with potassium nitrate) as asthma powder	K
Dicoma capensis Less. [1]	*karmedik (2)*, *wilde karmedik*	Herb; bitter tonic and diuretic; kidneys, bladder, back pain, nausea, influenza, colds, cancer; anti-diarrhoeal	K
Diospyros pallens (Thunb.) F.White [4]	*bloubos*, *swartwortel*	Decoction of powdered roots used for stomach pain; with stems included, to treat diarrhoea	L
Dodonaea angustifolia L.f. [2]	*ysterhout(toppe)*, *sandolien*, *t'koubi*	"Toppe" (tips) used for colds and fever; general tonic, inflammation; lung ailments, tuberculosis	P1–3; D; K; L
Ecklonia maxima (Osbeck) Papenfuss and other genera and species of seaweed [4]	*seebamboes*	Source of iodine; hot poultices; glandular swellings; an infusion of the ash taken for syphilis	P1–3; K
Elytropappus rhinocerotis (L.f.) Less. [1]	*renosterbos(toppe)*, *anosterbos*	Twigs ("toppe", tips); bitter for dyspepsia, indigestion, diarrhoea, tincture for gravel; vermifuge; fumigant	P1–3; D; K
Empleurum unicapsulare (Lf.) Skeels [4]	*hottentot's buchu*	Leaf; bruises (oral and topical)	W1
Eriocephalus africanus L. [syn. *Eriocephalus umbellulatus* Cass.] [1]	*kapokbos(sie)*, *wilderoosmaryn*	Herb; traditional diuretic (for dropsy); colds and chest ailments; stomach pain; weak stomach	T; P1–3; K; L
Eriospermum capense (L.) Thunb. subsp. *capense* [4]	*bobbejaanore*	Tuber; topical for ulcers, sores; in decoction for amenorrhoea	P1–3; K; L
****Eucalyptus globulus*** Labill. [5]	*blougom* [*bloekom*]	Leaves; fever, diphtheria, cough (in mixtures); wounds	D
Euclea species [2]	*ghwarriebos*, *ghuarriebos*	Leaves; infusions for heart problems	K
Euryops multifidus (Thunb.) DC. and other *Euryops* species [4]	*harpuisbos*, *t'goonu(?)*, *nu-nu*	Resin; a few drops of the infusion or tincture in water, for headaches, influenza; resin mixed with fat for sores	P1–3; K; L
Exomis microphylla (Thunb.) Aellen var. ***axyrioides*** (Fenzl.) Aellen [4]	*hondebos*	Leaf decoctions in milk; old Khoi remedy for epilepsy; winds, cramps and convulsions in infants	S
Fockea edulis (Thunb.) K.Schum. and other *Fockea* species [1]	*kambroo*, *camarebi*, *camao*	Tuber used as food; diuretic; fresh sliced tuber applied to (snake) bites and stings "to draw out the poison"	V; L
****Foeniculum vulgare*** Mill. [5]	*vinkel*	Leaves and/or fruits; carminative, eye drops	D; K
Galenia africana L. [1]	*kraalbos*, *t'kooi dabee*	Small amount of leaves chewed for toothache (too much results in blisters); eye drops (inflammation)	K; L
Garuleum bipinnatum (Thunb.) Less. [1]	*slanghoutjie*, *gifhoutjie*, *kowerbos(sie)*	Root; chest ailments, expectorant, diaphoretic, diuretic in gout and dropsy, antidote for snake bite; weak stomach	P2–3; D; K
Gethyllis species [1]	*koek(oe)makranka*, *kukumakranka*	Fresh frangrant fruit in tincture for colic, flatulence, dyspepsia	B3; T; P1–3; K

Table 1 (*Continued*)

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Glia prolifera (Burm.f.) B.L. Burtt [4]	*gli* (also *chamare*)	Root; carminative, diuretic	V
Gonioma kamassi E.Mey. [4]	*kamassie*	Bark; muscular weakness (topical)	W1
Gunnera perpensa L. [2]	*wilderamanas*, *rivierpampoen*	Root; dyspepsia, indigestion, gravel, pulmonary ailments; fresh leaf applied to ulcers and wounds	P1–3
Haemanthus coccineus L. [4]	*velskoenblaar*	Sliced bulb in vinegar: expectorant, diuretic; asthma, dropsy; fresh leaves for ulcers and septic wounds	T; P1–3; L
Heeria argentea (Thunb.) Meisn. [4]	*kliphout(gom)*, *klipes*	Gum (mixed with sweet oil) used as plaster for burns, wounds, tender nipples	D; K
Helichrysum litorale Bolus [syn. *Leontonyx angustifolia* DC.] [4]	*beetbossie*	Powdered herb (with fat) applied to ulcers	P3; K
Helichrysum odoratissimum (L.) Sweet [2]	*kooigoed*	Herb; cough, heart ailments, influenza, nervous disorders (usually in mixtures)	D; K
Helichrysum nudifolium (L.) Less. [2]	Not recorded	Leaves as tea; chest ailments, colds	P1–3; S
Helichrysum species [2, 4]	Not recorded	Herb?; nervous conditions, hysteria	B1
Hoodia pilifera (L.f.) Plowes; several other genera and species [1, 3]	*ghaap*, *hoodia*, *guaap*	Fresh stems as functional food; suppression of thirst and appetite; tinctures for haemorrhoids	P2–3; K; L; M4
Hyraceum (concretions of rock rabbit urine) [1]	*dassiepis*, *swart bo meester*, *//am uru*; *t'gaous*; *klipsweet*	Antispasmodic; back and stomach pain; poisoning; hysteria, epilepsy, all nervous conditions; as tea to treat women's ailments; abortifacient (large doses)	P1–3; D; K; L
Jamesbrittenia atropurpurpea (Benth.) Hilliard [4]	*geelblommetjie*, *saffraanbossie*	Herb; antispasmodic, stimulant; convulsions; cough, bronchitis	P1–3; K
Kedrostis nana (Lam.) Cogn., ***Kedrostis africana*** (L.) Cogn. [*Zehneria scabra* (L.f.) Sond.?] [1]	*dawidjiewortel*, *Dawid's wortel*, *gameroo(?)*, *rabuiswortel*	Tuber; emetic, purgative, diuretic; dropsy, syphilis	T; P1–3; M1; K; L
Knowltonia vesicatoria (L.f.) Sims, *Knowltonia capensis* (L.) Huth [4]	*brandblare*, *ka(a)tjiedrieblaar*	Leaves; counter-irritant to treat rheumatism, lumbago	C; P1–3; K
Lessertia annularis Burch [4]	*krimpsiekbos*	Poultice for abscesses	L
Leonotis leonurus (L.) R.Br. [2]	*dagga*, *wildedagga*, *rooi dagga*	Leaves; purgative, emmenagogue; headache, bronchitis; eye ointment; seeds for bronchitis, headaches; snakebite antidote; first aid in poisoning	P1–3; S; M1; D; K; L
Leonotis intermedia Lindl., *Leonotis ocymifolia* (Burm.f.) Iwarsson? [2]	*klipdagga*	As above	S; K; L
Leysera gnaphalodes (L.) L. [4]	*geelblommetjieste, duinetee*, *hongertee*	Herb; cattarh, cough, "consumption"	P1–3; K
Lichtensteinia lacera Cham. & Schltdl. [4]	*kalmoes*, *kalmiswortel*	Root (rhizome); dyspepsia	K
Lobelia pinifolia L. [4]	*wildelobelia*	Root; diaphoretic, rheumatism, gout (blood purifier)	T; P1–3
Lobostemon fruticosus (L.) H.Buek, *Lobostemon* species [1]	*agdaegeneesbos*, *douwurmbos*	Chewed leaf pulp applied as plaster; ointments for sores	K
****Malva parviflora*** L. [5]	*kiesieblaar*, *kasies*	Poultices (sores); decoctions (neuralgia, sore throat)	P2–3; D; K
Melianthus major L. [1]	(*truitjie-*) *kruidjie-roer-my-nie*	Leaf infusions; gargle for sore throat, gum diseases; external for ulcers, sores, snake bite	P1–3; D; K
Melianthus comosus Vahl [1]	As above	As above	S
Mentha longifolia (L.) Huds. [2]	*balderjan*, *baldrian*, *t'kamma*	Herb as tea; antispasmodic, carminative; treatment of colic, hysteria; diaphoretic	P1–3; L
****Mentha spicata*** L. [5]	*kruisement*	General medicine, stomach ailments	D
Mesembryanthemum crystallinum L. [4]	*ysplant*, *brakslaai*, *slaai*, *kama*	Fresh juice; urinary incontinence, bladder ailments	P1–3; K
Mesembryanthemum tortuosum L. and other species [1, 3]	*kanna(wortel)*, ("*channa*, *canna*") *kougoed*	Whole plant; suppression of thirst; chewed as hypnotic and sedative, for toothache, stomach ache; treatment of colic in infants; "will make a child sleep"	V; P1–3; H3; Z; L
Mohria caffrorum (L.) Desv. [4]	*brandvaring*, *brandbossie*	Powdered leaf (aromatic) in ointments: burns and scalds	P1–3
Monsonia emarginata (L.f.) L'Hér., *Monsonia burkeana* Planch. ex Harv. [4]	*keita*, *geita*, *nceta*	Herb and root used for diarrhoea and dysentery; Khoi remedy for colds and inflammation of the chest	P1–3; K; S; M1
Notobubon galbanum (L.) A.R.Magee [syn. *Peucedanum galbanum* L.] [4]	*bergseldery*, *wilde seldery*	Leaf decoctions; diuretic; treatment of gravel, obesity	P1–3; D; K; W2
Nylandtia spinosa (L.) Dumort. [4]	*skilpadbessie*	Tips (*toppe*); decoction for atrophy, phthisis	P1–3
Nymania capensis (Thunb.) Lindb. [4]	*stinkbos*	Convulsions	L
Olea europaea L. subsp. *africana* (Mill.) P.S.Green [2]	*olienhout*	Tips (toppe) pounded and applied as cold poultice to eye injuries	D

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Oncosiphon glabratum (Thunb.) Källersjö [4]	*wildekamomille*, *kamelle*	Herb; antispasmodic, colic, stomachic in dyspepsia; convulsions	P1–3; D; K
Oncosiphon suffruticosum (L.) Källersjö and ***Oncosiphon piluliferum*** (L.f.) Källersjö [1]	*stinkkruid*, *wurmkruid*, *wurmbos*, *miskruid*	Herb; tonic, digestive, anthelmintic, diuretic; infantile convulsions; stomach pain; poultice for scorpion stings; typhoid fever, rheumatic fever, influenza	P1–3; S; D; K; L
Osmitopsis afra (L.) K.Bremer [syn. *Osmitopsis hirsuta* Less.] [4]	*belskruie*	Herb; chest ailments	P1–3
Osmitopsis asteriscoides (P.J.Bergius) Less. [1]	*bels*, *belskruie*	Herb; antispasmodic, tonic; treatment of cough, chest ailments, colic; haemorrhoids; dyspepsia	T; P1–3; D; K
Othonna leptodactyla Harv. [4]	Not recorded	Leaf; poultice for cramps	V
Oxalis pes-caprae L. [4]	*suring*	Vermifuge	P2–3; K
Parmelia spp.; *Xanthomaculina hottentotta* (Ach.) Hale-Müll. [syn. *Parmelia hottentotta* (Ach.) Ach.] [1,2]	*klipblom*, *klipmos*, *klipbuchu*	Infusions for back pain; mouth wash for oral thrush; aromatic lichen (klipbuchu) used for anointing the body (and as mouth wash for teething children)	K; L
Pelargonium antidysentericum (Eckl. & Zeyh.) Kostel. [4]	*t'namie*, *t'kamie*, *naniewortel*	Tuber; decoctions in milk for dysentery (Namaqualand)	P1–3; K; L
Pelargonium cucculatum (L.) L'Hér. [1]	*malva*, *wilde malva*	Herb; colic, nephritis and as emollient	H1; P1–3
Pelargonium grossularioides (L.) L'Hér. [syn. *Pelargonium anceps* DC.] [4]	*rabassam*, *rooiwortel*	Red stems; amenorrhoea	P1–3; K; L
Pelargonium myrrhifolium (L.) L'Hér. [4]	Not recorded	Root; menstrual disorders, tonic, tuberculosis, earache, colic	B2
Pelargonium odoratissimum (L.) L'Hér. [4]	Not recorded	Leaf; cardiac stimulant	B2
Pelargonium pinnatum (L.) L'Hér. [4]	Not recorded	Roasted root; appetite stimulant	B2
Pelargonium ramosissimum (Cav.) Willd. [4]	*dassieboegoe*	Herb; infusion or tincture, for colds, tuberculosis; as nerve tonic	S
Pelargonium triste (L.) L'Hér. [1]	*rabas*, *rooirabas*	Tuberous roots; diarrhoea and dysentery	T; P1–3
Pelargonium reniforme Curtis, ***Pelargonium sidoides*** DC. [2, 3]	*rabas*, *rooirabas*	Tuberous roots; diarrhoea and dysentery; anaemias and weakness, fever	S; M1
Persicaria decipiens (R.Br.) K.L.Wilson [4]	Not recorded	Dropsy (oedema)	T
****Petroselinum crispum*** (Mill.) A.W.Hill [5]	*pietersielie*	Leaf infusion as diuretic	D; K
Pharnaceum lineare L.f. [1]	*droëdaskruie*	Herb; infusion used to treat tuberculosis	P2–3; K
Piper capense L.f. [4]	*bospeper*, *wilde-peper*, *staartpeper*	Fruit tincture; stomachic, stimulant, carminative; flatulence and colic	T; P1–3; K
***Plantago major* L., ****Plantago lanceolata* L. [5]	*weeblaar*	Seed infusions used to treat diarrhoea (especially children); leaf as poultice for wounds and sores	S; D
Plectostachys serpyllifolia (P.J.Bergius) Hilliard & B.L.Burtt [4]	*hottentotstee*, *vaaltee*	Leaves as tea; chest ailments, colds	P1–3; K
Plectranthus fruticosus L'Hér. [4]	*muishondblare*	Fresh leaf; open wounds	K
Podaxon carcinomalis (L.) Fr. [4]	Not recorded	Fungal spores; cancerous ulcers	T; P1–3
Protea nitida Mill. [1]	Not recorded [*waboom(bas)*]	Bark; astringent for diarrhoea	T
Protea repens (L.) L. [1]	*suikerbos*	Nectar; expectorant syrup [*bossiestroop*]	P1–3; K
Pteronia onobromoides DC. [4]	*sab* (plural: *san*), *boegoebos*	Powdered leaf, mixed with fat, used to anoint the body; also for burns, sunburn, earache	L
****Punica granatum*** L. [5]	*granaat(skille)*, *granaatbas*	Fruit rind, roots; vermifuge; treatment of diarrhoea and dysentery	P3; S; D; K
Rafnia acuminata (E.Mey.) G.J.Campbell & B.-E.van Wyk [4]	*vascobossie*	leaf; diuretic	T; P1–3; K
Rafnia amplexicaulis Thunb. [4]	*soethoutbossie*, [*waboomtee*]	Root; demulcent, similar to liquorice root; leaf infusions asthma, influenza, bad back, infertility	P1–3
Ranunculus multifidus Forssk. [4]	*kankerblare*	Leaf juice; treatment of cancerous sores	P1–3
****Ricinus communis*** L. [5]	*kasterolie(boom)*	Seed oil as purgative	P1–3; D
Rorippa nasturitum-aquaticum (L.) Hayek [4]	*bronkorsslaai*	Tea for bronchitis, lung ailments	D; S
Rubia petiolaris DC. [1]	*rooihoutjie*	Root; diarrhoea and dysentery	S
Rubus pinnatus Willd. [4]	*braam(wortels)*, *braamboswortel*	Roots; diarrhoea; haemorrhoids, epilepsy	P2–3; D; K
****Ruta graveolens*** L. [5]	*wynruit*	Weak infusions for inflammation, rheumatism, fever, chest ailments, diabetes, high blood pressure	D; K
Salix mucronata Thunb. [2], ****Salix babylonica*** L. [5]	*wilger(toppe)*, *rivierwilger*	Tips (toppe) or bark; fever, inflammation, headache; old Khoi remedy for rheumatic fever	D; S

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Salvia africana-caerulea L. [1]	*bloublomsalie*, *wildesalie*	Leaf decoctions used for coughs, colds, women's ailments; diarrhoea	P2–3; D; K; L
Salvia africana-lutea L. [1]	*s(tr)andsalie*, *geelblomsalie*	Leaf decoctions used for coughs, colds, women's ailments	L
****Salvia officinalis*** L. [5]	*salie*, *maksalie*	Gargle for sore throat	D
Samolus valerandi L. [4]	*bronkors*	Tea for lung ailments; skin rash	S; D
Sansevieria aethiopica Thunb. [2]	*aambeiwortel*, *ghaiwortel*, *t'kay*	Rhizomes; infusions to treat haemorrhoids; decoction for intestinal worms	P2–3; S; K
Solanum giganteum Jacq. [syn. *Solanum niveum* Thunb.] [2]	*genees(blaar)boom (-bos)*	Leaf, fruit juice; ulcers and wounds	T; P1–3
Solanum linnaeanum Hepper & Jaeger [4]	Not recorded	Root; dropsy (oedema)	H2
Steirodiscus tagetes (L.) Schltr. [4]	cabaroë	Leaf; rubefacient poultice	V
Sutherlandia frutescens (L.) R.Br. and other species [2, 3]	*kankerbos(sie)*, *kalkoenblom*	Roots, leaves; wounds, eye diseases; bitter tonic, cancer, numerous ailments; fever, consumption, chicken pox;	P1–3; S; D; L
Tarchonanthus camphoratus L. [2]	*kanferhout*, *kamferbos*, *vaalbos*	Leaf infusion; diaphoretic, treatment of bronchitis, asthma	P3; K; L
Teucrium africanum Thunb., *Teucrium trifidum* Retz. [2]	*paddaklou(w)*, [*katjiedrieblaar*]	Herb; tonic, sore throat; hot infusion for snake bite; leaf paste for toothache	S
Tulbaghia alliacea L.f. [2]	*wilde knoflook*	Herb; infusion (milk) used to treat intestinal worms, fever, influenza, high blood pressure, tuberculosis	T; P1–3; K
Tulbaghia violacea Harv. [syn. *Tulbaghia cepacea* L.f. var. *maritima* Vosa] [2]	*wildeknoffel*, *wilde knoflook*	As above	T; P1–3; K
Tylecodon wallichii (Harv.) Toelken [4]	*krimpsiekbos*	Poultice for abscesses	L
Urginea altissima (L.f.) Baker [4]	*maerman*	Bulb; catarrh, asthma, "consumption", "hydrothorax"	P1–3; K
Urtica urens L. [2]	*brandnetels*	Chest ailments, whooping cough; wounds and sores; powdered leaf or leaf tincture as styptics	S; D; K
Valeriana capensis Thunb. [4]	*wildebalderjan* (see *balderja*), *baldrian*	Root infusions; typhoid fever, epilepsy, hysteria, intestinal worms; sudoriferous	P1–3; K
Veltheimia capensis (L.) DC. [4]	*quaroebe*	Bulb; laxative	V
Viscum capense L.f. [1]	*voëlent*, *litjiestee*	Whole herb; infusions; antispasmodic, epilepsy in children; wasting disease (children)	P1–3; D; K
Widdringtonia cedarbergensis J.A.Marsh [4]	*sederboom(gom)*	Resin; used in (warm) plasters to treat gout, rheumatism	P1–3; K
Withania somniferum (L.) Dunal [2]	*geneesblare*	Leaf for ulcers and wounds; root bark as tonic	S
Xysmalobium undulatum (L.) Ait.f. [2]	*bitterwortel*	Root; diuretic, stomach pain	T; P1–3; S; K; W2
Zantedeschia aethiopica (L.) Spreng. [2]	*varkblaar*, *varkblom (-wortel)*	Warmed leaf applied to wounds and sores; pounded root as poultice on inflamed wounds	P3; S; D; K
Zanthoxylum capense (Thunb.) Harv. [2]	*wilde kardamon*, *wildekarmonk*	Fruit; colic, flatulence, paralysis	T; P1–3; K

Unidentified species (or those of doubtful identity) were excluded. Species names in bold indicate plants that are still commonly used today. References [pre-1800 references are cited from: [a]De Wet and Pfeiffer (1978) and [b]Scott and Hewett (2008)]: B1 = Boerhaave (1727)[b]; B2 = Burman (1759)[b]; B3 = Burchell (1822–1824); B4 = Barry (1827), cited by Theodore (1972) and Magee et al. (2007); C = Commelin (1697-1701)[b]; D = Dykman (1908); H1 = Herman (1687)[b]; H2 = Houttuyn (1776)[b]; H3 = Hartwich (1911). K = Kling (1923); L = Laidler (1928); M1 = MacOwan (1897); M2 = Marloth (1915); M3 = Marloth (1925); M4 = Marloth (1932); P1 = Pappe (1847); P2 = Pappe (1850); P3 = Pappe (1857); S = Smith (1895); T = Thunberg (1785)[b]; V = Van der Stel (1685)[a,b]; W1 = Wehdemann (1836)[b]; W2 = Watt and Breyer-Brandwijk (1928); Z = Zwicky (1914). In column 1, the following five categories are indicated in square brackets: [1] = Cape-endemic species still in everyday use; [2] = South African species with a wide distribution that are also used in other (Sotho and Nguni) healing systems; [3] = species of current commercial interest; [4] = species that are mainly of historical interest; [5] = non-indigenous species (early introductions) that became an integral part of the *materia medica*.

Aloe ferox, *Artemisia afra*, *Bulbine frutescens*, *Cyclopia genistoides*, *Hoodia* species, *Leonotis leonurus*, *Lobostemon fruticosus*, *Mesembryanthemum tortuosum*, *Pelargonium sidoides*, *Sutherlandia* species and *Xysmalobium undulatum* (a broad review of these species is included elsewhere in this volume); 4, plants of historical interest only—since many of the species are scientifically poorly known, some may possess important activities that could be the subject of future research; 5, non-indigenous plants (garden plants) that were introduced by the Dutch and which became an integral parts of Cape herbal medicine. The species are indicated by a single asterisk (indigenous but non-Cape, one species) and double asterisk (non-indigenous, garden plants or weeds). Vernacular names such as *wynruit*, *dagga*, *vinkel*, *groenamara*, *kiesieblaar* and *wilgerboom* are still in everyday use in a medicinal context in the Cape (Thring and Weitz, 2006; Van Wyk et al., 2008). Dold and Cocks (1999) have also found that exotic plants are readily incorporated into traditional medicine in the Eastern Cape Province.

It is important to note that recent publications and ethnobotanical surveys are not included in Table 1, as the cut-off date was deliberately set at 1932 (the publication date of the last volume of Marloth's flora). Many new records may be added, especially from isolated areas where no detailed or systematic studies have yet been conducted. However, there is very strong agreement between the

list in Table 1 and the published lists of plants that are still currently used (Archer, 1990; Montagu Museum, 1998; Thring and Weitz, 2006; Van Wyk et al., 2008; see also Ferreira, 1987). Recent literature and ongoing ethnobotanical surveys are all making important contributions towards a more complete synthesis of Cape herbal medicine, not only by adding new records but by providing independent confirmation of the present-day medicinal importance of most of the species listed in Table 1.

4. Conclusion

The combination of a unique cultural heritage (the ancient Khoikhoi and San cultures, mixed with European influences) and the botanically rich and diverse Cape flora has led to the development of a healing system with unique medicinal plants. Cape herbal medicine as a unique system of healing is here conceptualized for the first time, together with a first compilation of the authentic *materia medica* of the system.

The most commonly used plants have been fairly accurately recorded but unfortunately, very few of the original Khoikhoi and San names have survived. Cape herbal medicine is still widely practised, especially in rural areas, and the majority of the ca. 170 medicinal plant species recorded before 1932 are still in everyday use. The Cape *materia medica* comprises mostly indigenous and Cape-endemic plant species, several cultivated or weedy (exotic) plants, together with a few fungi, lichens, seaweeds and animal products (mainly *hyraceum* and *klipsweet*). The data presented here allows for a more informed consideration of indigenous knowledge and intellectual property rights associated with particular plants (*Hoodia* and *Pelargonium*). It also offers fascinating opportunities for linking modern ethnobotanical field studies with historical data.

Acknowledgements

Funding for studies on Cape medicinal plants by the National Research Foundation (South Africa) and the University of Johannesburg is gratefully acknowledged. Dr. Patricia Tilney is thanked for proofreading the revised manuscript.

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