

## Bark medicines used in traditional healthcare in KwaZulu-Natal, South Africa: An inventory

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**Bark is an important source of medicine in South African traditional healthcare but is poorly documented. From thorough surveys of the popular ethnobotanical literature, and other less widely available sources, 174 species (spanning 108 genera and 50 families) used for their bark in KwaZulu-Natal, were inventoried. Vernacular names, morphological and phytochemical properties, usage and conservation data were captured in a database that aimed to synthesise published information of such species. Data specificity was found to be the major limiting factor in the study and resulted in uneven distribution of information in the database.**

**Overlapping vernacular names recorded in the literature indicated that it may be unreliable in local plant identifications. Most (43%) bark medicines were documented for the treatment of internal ailments. Sixteen percent of species were classed in threatened conservation categories, but conservation and management data were limited or absent from a further 62%. There is a need for research and specialist publications to address the gaps in existing knowledge of medicinal bark species and their management to conserve the South African flora.**

### Introduction

Accounts of plants used traditionally assist not only in the *ex situ* conservation of indigenous culture, knowledge and belief systems (Rajan *et al.* 2001), but also in channelling research towards useful plant species. The ethnobotanical approach to plant research highlights that those species used traditionally are most likely to yield useful products and are most likely to be threatened by over-exploitation. Furthermore, indigenous knowledge is recognised as valuable in reducing environmental degradation and promoting sustainable utilisation (Cunningham 1988, Hedberg 1993, De Beer 2000, Okoji 2001). Understanding the dynamics of people–plant interactions may facilitate important contributions to the management of flora where it is most relied upon (Cunningham 2000, Williams *et al.* 2000). An inventory of locally important plant species can be invaluable in this process of understanding. In the case of medicinal flora, demands, species used and their popularity, can reflect regional differences in the health needs of local users (Williams *et al.* 2000). The role of the inventory therefore extends beyond a simple list of plants, vernacular names and usage. Although inventories have been criticised for not being sufficiently scientific (Cunningham 2000, Botha *et al.* 2001), the information contained in a local plant checklist

may provide the substrate on which subsequent studies are based.

South Africa has a long history of research in economic botany that focussed on plants with agricultural potential, and on weed control (Wickens 1990). More recently, the economic potential of South African medicinal plants has been recognised. In contrast, ethnobotanical or anthropological studies of people–plant interactions in this country are relatively few. The single and therefore definitive chronicle of the Zulu pharmacopoeia is that of Hutchings *et al.* (1996) and of the southern African region, Watt and Breyer-Brandwijk (1962). Recent ethnobotanical inventories of South African medicinal plants include those of Hutchings (1989a, 1989b), Scott-Shaw (1990), Williams *et al.* (2000, 2001) and Botha *et al.* (2001), as well as economic studies by authors such as Cunningham (1988), Mander *et al.* (1997) and Mander (1998).

Barks comprise nearly one third of the medicinal plant products traded and used in South African traditional healthcare (Mander 1998, Williams 1996), which is consulted by the majority of the population (Cunningham 1988). The importance of bark in meeting the healthcare needs of South Africans is not reflected by the ethnobotanical literature

(reviewed by Grace *et al.* 2002a). There is a need for comprehensive sources of information to empower efforts of conservation, trade monitoring and healthcare standardisation.

### Material and Methods

A comprehensive literature survey was undertaken to consolidate existing knowledge of the uses, properties and conservation status of plant species used medicinally for their bark in KwaZulu-Natal, South Africa. It was intended that a single source of information, dealing specifically with ethnomedicinal barks, would be generated from the most popular and widely available literature that forms the basis of ethnobotanical studies in South Africa. The literature was assessed in terms of the usefulness of recorded information, and how it may be translated to the conservation of medicinal bark species.

Plant species used medicinally for their stem- and/or root-bark in KwaZulu-Natal, South Africa were identified in literature surveys. A Microsoft® Access 2000© database was designed to accommodate searchable data fields detailing bark usage and properties for each taxon. Sensitive parameters were set to ensure that data referred explicitly to the medicinal purpose or properties of bark used in KwaZulu-Natal (although they may occur and be used elsewhere); this selective approach aimed to ensure quality rather than quantity of information in the database. Data collected from diverse media were entered into several categories: vernacular plant names used in KwaZulu-Natal; usage in the province and southern Africa; field descriptions and biochemical properties of the bark; conservation status of each species; and miscellaneous notes. Rather than a numeric reference system, sources were cited in the text. Species entries from the database are presented here (Appendix 1), ordered alphabetically rather than by taxonomic relationships, for ease of reference.

Botanical nomenclature was taken mostly from Arnold and De Wet (1993), Mabberley (1997) and Wiersama and León (1999). Authors of scientific names were abbreviated according to Brummit and Powell (1992). With reference to the three dominant languages in the province, common English, Afrikaans and Zulu names were taken from the literature, including Von Breitenbach *et al.* (2001). Zulu nouns are characterised by a prefix and stem that are sometimes denoted by a hyphen and/or capitalised stem. For example, the common Zulu name for *Acacia sieberiana* DC. is umkhamba; for clarity, it may be written as umKhamba or um-khamba, and likely indexed as -Khamba (um). In this case, however, Zulu nouns were presented in the more correct form (Williams *et al.* 2001), without distinction between the prefix and stem.

The medicinal, magico-religious and veterinary purposes for which bark is reportedly used in KwaZulu-Natal and the southern African region were recorded. Other purposes for which bark is used (e.g. fibre, fuel) were omitted. An effort was made to quantify data such as volumes used in preparation and dosage of medicines (for example, one teaspoon measures 5ml and one tablespoon 15ml). Terminology that is obsolete in the context of modern biomedical therapeutics

persists in many accounts of traditional medicine (Elvin-Lewis and Lewis 1995), including many consulted for this review. Preconceived values and beliefs superimposed upon evaluations of traditional medicine systems may also influence the information accounted (Iwu 1993). Accordingly, the TADWG (International Working Group on Taxonomic Databases for Plant Sciences) standard for recording plant uses (Cook 1995) was employed to implement acceptable terminology where possible.

Morphological and phytochemical descriptors of each species' bark were compiled. Although integral to any catalogue of plant species (WHO, IUCN and WWF 1993), illustrations, distributions, habitat and cultivation data that are well documented in existing accounts were excluded. Notes on conservation status were made, to highlight a taxon's value. Trade information was considered pertinent, including data from outside KwaZulu-Natal, since much of the material traded throughout South Africa is harvested or supplied by markets in KwaZulu-Natal. Data outside other data fields were included as additional notes.

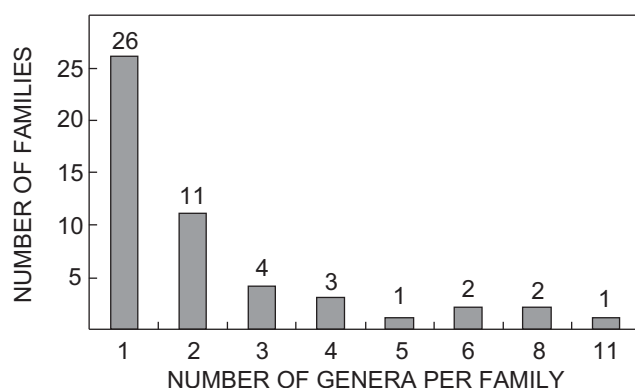
### Results and Discussion

#### Literature

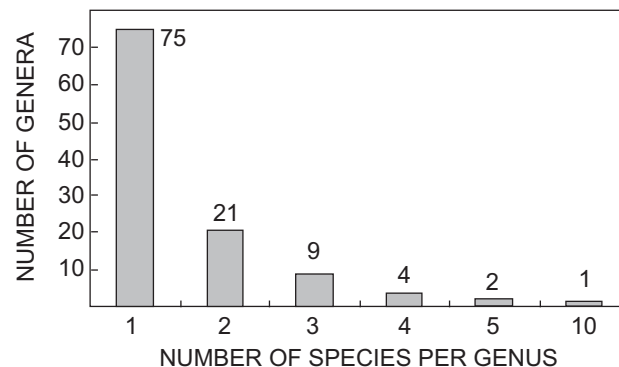
The limiting factors affecting this inventory were the lack of literature dealing specifically with bark, and, where barks are explicitly mentioned, vague information: omitting to detail user populations, localities, correct botanical nomenclature, sources of plant material, or methods of medicinal preparation. Forty-two books were consulted, 15 conference proceedings or investigative reports, 72 papers in refereed journals, and three flora or memoir publications. 'Grey' sources, so-called due to usually obscure locality and troublesome accessibility, included three magazine articles and anecdotal knowledge attributed to personal communications. Several grey sources, identified in electronic searches or cited in other publications, could not be accessed. Cunningham (2000) recommended that, to overcome the problem of valuable data being obscured in grey literature, copies should be deposited in recognised libraries and published in international journals. Publication on the Internet may also facilitate access to such literature. In this inventory, emphasis was placed on consolidating data contained within the most popular and widely consulted sources, rather than comprehensive literature reviews of each taxon.

#### Represented taxa and trends in information

One hundred and seventy four species, representing 50 plant families and 108 genera, were inventoried. Families represented by the highest number of genera (Figure 1) were the Euphorbiaceae (11 genera), Anacardiaceae and Celastraceae (eight genera each). Highest species representations per genus (Figure 2) were by *Acacia* in the Caesalpiniaceae (10 species), *Cassine* in the Celastraceae and *Euclea* in the Ebenaceae (five species each). Exotic species included *Cinnamomum camphora* (L.) J. Presl. and *C. zeylanicum* (Burch.) Baill. (Lauraceae), and unidentified members of the genera *Cupressus* (Cupressaceae),



**Figure 1:** Number of genera in families inventoried for medicinal bark usage in KwaZulu-Natal, South Africa



**Figure 2:** Number of species in genera inventoried for medicinal bark usage in KwaZulu-Natal, South Africa

*Eucalyptus* (Myrtaceae) and *Pinus* (Pinaceae). Those taxa with high representation in the database may not necessarily be the most popular medicinal bark species in the province, but abundant in the flora of KwaZulu-Natal. This agrees with Williams *et al.* (2000) who found a significant correlation between the plant families used medicinally on the Witwatersrand and the southern African flora: taxa harvested and used medicinally are associated with the largest southern African floral families. Additionally, taxa occurring in extensive vegetation types and/or vegetation near traditional medicine markets have a higher probability of being used and traded (Williams *et al.* 2000).

The number of taxa included in the database may be a conservative reflection of the actual number of bark species used medicinally in KwaZulu-Natal. Hutchings *et al.* (1996) identified 1 032 plant species used in Zulu traditional medicine in KwaZulu-Natal. Most of the 174 species included in this database were recorded for bark usage by Hutchings *et al.* (1996). At least 112 species used for their bark in traditional healthcare are harvested from indigenous forests in South Africa (Cunningham 1988, Mander *et al.* 1997), many of which are likely to occur in KwaZulu-Natal due to floristic similarities between South African forests (DWA 1995, Low and Rebelo 1996). Considering species from other vegetation types (in the Grassland, Savanna and Thicket biomes) (Mander 1998), the number of bark species used in KwaZulu-Natal may be substantially higher than presently known.

A wealth of published information is available for economically important bark species, those of high conservation priority, and those with recognised pharmacological potential. For example, *Kigelia africana* (Lam.) Benth. (Bignoniaceae) has been recognised for its pharmacological properties against skin complaints and ethnobotanical and biochemical knowledge of this species is extensively documented (Grace *et al.* 2002b, Houghton 2002, SEPASAL 2002). *Prunus africana* (Hook. f.) Kalkm. (Rosaceae) bark is the source of pharmaceuticals used against prostatic hypertrophy and its phytochemical properties and sustainable usage extensively researched (ICRAF Online 2000). Similarly, *Warburgia salutaris* (Bertol. f.) Chiov. (Canellaceae) and *Ocotea bullata* (Burch.) Baill. (Lauraceae) are both under threat of extinc-

tion as a result of unsustainable exploitation for medicinal use in South Africa. Interest has been expressed in the therapeutic potential indicated by their medicinal importance and the possibility of using leaves instead of the less-sustainable bark (Zschocke *et al.* 2000b, Drewes *et al.* 2001, Geldenhuys 2001b). An outcome of the differential volumes of literature for each taxon was uneven distribution of information in the database.

#### Nomenclature and synonymy

Most species shared only one English or Afrikaans vernacular name with other species, but at least three Zulu vernaculars. Nouns with the most frequent recurrence in the database were the English 'cherry', 'pear' and 'milkberry'; Afrikaans 'peer' [pear], 'melkhout' [milkwood] and 'stinkhout' [stinkwood]; and Zulu '(um)lamanye' [meaning 'to recover from illness']. The number of vernacular terms referring to a plant is known to indicate cultural importance and usage, but some popular species are widely known by only one or two vernacular names. *Harpephyllum caffrum* Bernh. ex Krauss (Anacardiaceae) is known only as 'umgwenya' (presumably a reference to the grey bark that resembles crocodile skin), and *Cinnamomum camphora* as 'uroselina' (referring to a girl's name as the aromatic bark is used as a perfume (Van Wyk *et al.* 1997)). Interestingly, Williams *et al.* (2001) commented on the dominance of Zulu vernacular names throughout the South African medicinal plant trade, as traditional healers of other language groups have adopted them. Botha *et al.* (2001), for example, recorded the Zulu vernacular name 'maphipha' and 'umaphipha' for *Rapanea melanophloeos* (L.) Mez (Myrsinaceae) in Mpumalanga Province, where Northern Sotho, Tswana and Tsonga are the dominant indigenous languages.

Due to synonymy of names given to different plant species, and the application of multiple names to a single species, plant identification using vernacular names is notably difficult. Vernacular nomenclature cited in the literature may be erroneous or recorded for incorrect plant species (Williams *et al.* 2001) and varies widely in its spelling. To accommodate such variability, every recorded name was included here despite obvious repetition. Dounias

(2000) provided a useful discussion of problems associated with linguistics in ethnobotanical research. Vernacular names may refer to a number of unrelated plant species, usually when they are used for a common purpose. Botha *et al.* (2001) reported that only 71% of the vernacular names encountered in Mpumalanga markets were accounted for in the 176 medicinal plant species they identified, and 84% of the names accounted for the 70 species identified in the Limpopo (Northern Province) trade. Despite the sometimes questionable reliability of vernacular nomenclature, local vernacular names may nonetheless be useful in distinguishing between different medicinal plant products of a region.

### Medicinal usage and administration

Ethnographic information captured in the database indicated that bark medicines are administered by varied methods to treat a diversity of ailments, spanning all levels of health-care, including first aid, preventative and rehabilitative therapy and for magical or religious purposes. Of the 174 bark species inventoried, 14 (8%) used in KwaZulu-Natal were recorded in the literature for the treatment of external ailments (e.g. eye complaints, toothache and wounds), 77 species (44%) for internal ailments (including uses such as purgatives, emetics and against internal parasites), and 20 species (11%) for both internal and external ailments. Of those taken internally, five are reportedly administered only by enema, 19 orally, and 20 by both; five are taken as snuff. Other recorded uses included prophylaxis against malaria (four species), first aid against snakebite, poisoning and burns (eight species) and in magical or spiritual applications, such as love charms and medicines to treat grievance (32 species). Fourteen species were recorded for ethnoveterinary uses. Although the above data indicate that the majority of bark medicines are usually taken orally in therapy of internal ailments, the purposes for which 54 species' (31%) bark are used medicinally were unspecified. Since this inventory relied exclusively upon information recorded in the literature, anecdotal knowledge from traditional medical practitioners could alter the usage patterns outlined above.

Hutchings (1989a) noted that of 794 plant medicines employed by Zulu, Xhosa and Sotho cultures in South Africa, a higher proportion of monocotyledonous than dicotyledonous plants were used externally as charms and for procreation-related complaints. Dicotyledonous plants were used to treat a wider range of ailments than monocotyledonous ones (Hutchings 1989a). Trends in usage and administration of medicines may indicate possible alternatives to existing practices that threaten the indigenous medicinal flora. Without further documentation and analysis of traditional healthcare in this country, such trends will remain difficult to ascertain. Varied usage and administration signifies the integral role of bark medicines in South African traditional healthcare.

### Conservation concerns

Of the 174 species in the database, 29 (16%) (spanning 17 families) were described in threatened conservation cate-

gories, three of which (*Alberta magna* E. Mey., *Albizia suluensis* Gerstner and *Ocotea bullata* (Burch.) Baill.) were globally threatened. Seven species were considered 'not threatened'. The highest number of 'vulnerable' or 'declining' species per family was in the Celastraceae (seven species). This does not necessarily reflect the latter as the most threatened family used for bark in KwaZulu-Natal, as conservation data were limited (economic and/or management information recorded, but no indication of exploitation) for a further 27 (16%) and absent from 85 entries (48%) in the database. For 19 of the 29 species with recognised conservation concerns, additional data verified that medicinal bark products were in high demand, limited in availability and frequently expensive. Five species were of 'indeterminate' conservation status; *Ekebergia capensis* Sparrm. was the single such species for which trade information was documented, and these data indicated risk of exploitation.

Where trade data were recorded, the price of bark products was generally found to indicate their availability (those perceived as rare or in high demand were usually comparatively expensive), but economic data fluctuated and were sometimes inconsistent. For example, *Calodendrum capense* (L.f.) Thunb. bark was reportedly in high demand yet readily available in Mpumalanga Province and ranged in price from R33–R435 kg<sup>-1</sup> (Botha *et al.* 2001). In contrast, *Bersama tysoniana* Oliv. bark was considered to be in high demand yet less readily available, but was less expensive (R11–R400 kg<sup>-1</sup>) (Botha *et al.* 2001).

Twenty-eight species (16%) were not described in a conservation category, but trade data (perceived availability, consumer demands, trade prices) suggested that these species are highly exploited for their medicinal barks. Species threatened by exploitation for the medicinal plant trade, but not classed in a conservation category, are cause for concern, since their conservation and sustainable management are unlikely until they are recognised as threatened.

The spatial scale on which the conservation status of a plant species is determined frequently results in locally threatened or extinct species being overlooked at the global or provincial level (Scott-Shaw 1999). Threatened taxa not classified within World Conservation Union (IUCN) categories remain largely unrecognised. Conservation data for the species inventoried here were taken primarily from Cunningham (1988), Hilton-Taylor (1996), Scott-Shaw (1999) and Victor (2002). Conservation categories in Cunningham (1988) were modified from Hall *et al.* (1980), who used the 'old' (pre-1994) IUCN Red Data categories described by Davis *et al.* (1986). Similarly, Hilton-Taylor (1996) followed the 'old' IUCN categories with minor modifications. Scott-Shaw (1999) presented the first assessment of the KwaZulu-Natal flora in terms of the 'new' IUCN Red Data categories adopted in 1994, as did Victor (2002). Differences in classification criteria imparted some confusion in determining the conservation status of species in the database, but in many cases provided a comprehensive picture of threats on the levels described by different authors.

The database highlighted interesting trends in existing knowledge of medicinal bark species used in KwaZulu-Natal, and areas where research is needed to answer ques-

tions of management for sustainable medicinal use. The importance of bark medicines in traditional healthcare in the province, and indeed South Africa, is not clearly reflected by the literature, and poor data specificity is the key limiting factor affecting its usefulness. Conservation status and attributes relevant to the management of species used for their bark were frequently vague or absent. There is a need for research and specialist publications to address the gaps in existing knowledge of bark properties and management of plants used medicinally for their bark to conserve the South African medicinal flora.

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**Appendix 1:** Inventory of plant taxa used medicinally for their bark in KwaZulu-Natal, South Africa. The following pages detail data captured in an electronic database. Unless otherwise stated, data refer only to taxa used medicinally for their bark, and only the properties of the bark. The complete set of data fields is shown below but where data fields are absent for a particular taxon, data were lacking in the literature consulted

**Species** (Naturalised alien taxa are marked with an asterisk (\*))

**FAMILY**

**AUTHORITY**

**SSP TAXON**

**SYNONYMS**

**ENGLISH/AFRIKAANS** (E = English, A = Afrikaans)

**ZULU**

**DESCRIPTION**

**PHYTOCHEMICAL/PHYSICAL PROPERTIES**

**USE IN KWAZULU-NATAL**

**USE IN SOUTHERN AFRICA**

**CONSERVATION**

**ADDITIONAL INFORMATION**

***Acacia burkei***

**FAMILY** Fabaceae — Mimosaceae

**AUTHORITY** Benth.

**SYNONYMS** *Acacia ferox* Benth.

**ENGLISH/AFRIKAANS** black monkey-thorn (E), swartapiesdoring (A)

**ZULU** likhaya, umkhaya, umkhaya wehlalahlati, umkhaya wehlalalini

**DESCRIPTION** Variable in appearance, from smooth, scaly and yellow-grey, to rough and brown-black with knobby thorns on the main trunk (Coates Palgrave 2002). Bark on immature branches yellow-grey to red-brown and velvet-textured, becoming pale or dark yellow-grey to dark brown with maturity (Venter and Venter 1996).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** See Trease and Evans (1983).

**USE IN KWAZULU-NATAL** Used to treat eye complaints (Pooley 1993).

***Acacia caffra***

**FAMILY** Fabaceae — Mimosaceae

**AUTHORITY** (Thunb.) Willd.

**SYNONYMS** *Acacia caffra* Willd. var. *longa* Glover, *A. caffra* Willd. var. *namaquensis* Eckl. & Zeyh., *A. caffra* Willd. var. *tomentosa* Glover, *A. caffra* Willd. var. *transvaalensis* Glover, *A. fallax* E.Mey., *A. multijuga* Meisn.

**ENGLISH/AFRIKAANS** common hook-thorn (E), gewone haakdoring (A)

**ZULU** umthole, umtholo (root)

**DESCRIPTION** Dark brown to black, rough, and sometimes cracked in squares or peeling in long strips (Coates Palgrave 2002, Venter and Venter 1996). Bark on immature branches red-brown and smooth, becoming dark and rough with maturity (Venter and Venter 1996).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Contains tannin (Watt and Breyer-Brandwijk 1962). Poisoning in livestock, caused by prussic acid in twigs, has been associated with *A. caffra* (Kellerman *et al.* 1988 cited in Hutchings *et al.* 1996). See Trease and Evans (1983).

**USE IN KWAZULU-NATAL** Infusions are taken as blood-cleansing emetics (Watt and Breyer-Brandwijk 1962).

**CONSERVATION** *A. caffra* was among the 13 most frequently demanded medicinal species in KwaZulu-Natal (Mander 1998).

***Acacia gerrardii***

**FAMILY** Fabaceae — Mimosaceae

**AUTHORITY** Benth.

**SSP TAXON** var. *gerrardii*

**SYNONYMS** *Acacia gerrardii* Benth., *A. hebecladoides* Harms

**ENGLISH/AFRIKAANS** grey-haired acacia (E), red thorn (E), rooibas (A), rooidoring (A)

**ZULU** umngampunzi, umphuze, umsama, unkhamanzi

**DESCRIPTION** Dark grey or red-toned, and may be rough or smooth; immature branches covered by grey, velvet-textured pubescence (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Acetone extracts have yielded 5(+)-catechin galloyl esters (Malan and Pienaar 1987 cited in Hutchings *et al.* 1996). See Trease and Evans (1983).

**USE IN KWAZULU-NATAL** Decoctions are used for emetics and enemas (Watt and Breyer-Brandwijk 1962). To overcome or neutralise a dislike of fellow men, decoctions are heated and the vapour inhaled (Hutchings *et al.* 1996).

**CONSERVATION** Shackleton (2000) found that coppice production is not sensitive to the cutting height at which trees are felled, but coppice shoots will increase with increased stump surface area.

***Acacia karroo***

**FAMILY** Fabaceae — Mimosaceae

**AUTHORITY** Hayne

**SYNONYMS** *Acacia capensis* (Burm.f.) Burch., *A. hirtella* E.Mey., *A. hirtella* Willd. var. *inermis* Walp., *A. horrida* Willd., *A. horrida* Willd. var. *transvaalensis* (Burt Davy), *A. inconflagrabilis* Gerstn., *A. karroo* Hayne var. *transvaalensis* (Burt Davy) Burt Davy, *A. reticulata* (L.) Willd., *Mimosa capensis* Burm.f., *M. leucacantha* Jacq., *M. nilotica* Thunb.

**ENGLISH/AFRIKAANS** sweet thorn (E), white thorn (E), soetdoring (A)

**ZULU** isikhombe, umnga, umunga

**DESCRIPTION** Dark red-brown, almost black, slightly rough and flaking, revealing reddish inner bark or wood; immature branches rust- to olive-coloured with white or pale brown lenticels (Coates Palgrave 2002, Van Wyk *et al.* 1997).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Rich in tannins (Van Wyk *et al.* 1997). Gum frequently accumulates around wounds on the bark; an arabinose-galactose gallotannin, known as Cape gum (similar to gum arabic), is used in the pharmaceutical industry for emollient, emulsifier, stabiliser and additive purposes (Van Wyk *et al.* 1997). Uronic acid (10.3–8.1%) and rhamnose (4–10%) have been isolated in the gum (Anderson and Pinto 1980 cited in Hutchings *et al.* 1996). The heartwood also contains acacatechin, catechutannic acid and quercetin, which have anti-diarrhoeal properties (Martindale 1972 cited in Van Wyk *et al.* 1997). See Trease and Evans (1983).

**USE IN KWAZULU-NATAL** Decoctions are used to purge symptoms of evil and sorcery (Watt and Breyer-Brandwijk 1962). Bark is also used in an astringent medicine (Gerstner 1941 cited in Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** Outside KwaZulu-Natal, it is used with the leaves in a tea for coughs, colds, diarrhoea, stomach aches, haemorrhage and ophthalmia or conjunctivitis; it is similarly used in ethnoveterinary medicine for diarrhoea, coughs and ophthalmia in cattle and dogs (Watt and Breyer-Brandwijk 1962, Roberts 1990). Infusions are used in ethnoveterinary medicine as an antidote to poisoning as a result of eating *Moraea* sp. (Coates Palgrave 1977). In the Cape Province, it is used against diarrhoea and dysentery (Watt and Breyer-Brandwijk 1962). Gum is used with *Capsicum* sp. fruit and strong vinegar in a dressing for acute osteomyelitis, and to draw abscesses and splinters (Hutchings *et al.* 1996). It is diluted with water and used as a mouthwash against oral thrush [*Candida albicans*] and sprue (Venter and Venter 1996). Thorns are used to relieve heart pains and for magical purposes (Mabogo 1990 cited in Hutchings *et al.* 1996).

#### *Acacia luederitzii*

**FAMILY** Fabaceae — Mimosaceae

**AUTHORITY** Engl.

**SSP TAXON** var. *luederitzii*

**SYNONYMS** *Acacia goeringii* Schinz, *A. luederitzii* Engl.

**ENGLISH/AFRIKAANS** bastard umbrella thorn (E), belly thorn (E), fat-thorned acacia (E), Kalahari sand acacia (E), basterhaak-en-steek (A), buikdoring (A)

**ZULU** ugagu, umbambampala, umshangwe

**DESCRIPTION** Very rough, longitudinally fissured and ridged; immature branches grey to red with dense grey or white woolly pubescence; older branches purple-toned to dark brown-black without pubescence (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** See Trease and Evans (1983).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Pooley 1993).

#### *Acacia nilotica*

**FAMILY** Fabaceae — Mimosaceae

**AUTHORITY** (L.) Willd. ex Delile

**SSP TAXON** ssp. *kraussiana* (Benth.) Brenan

**ENGLISH/AFRIKAANS** black thorn tree (E), redheart tree (E), scented-pod acacia (E), scented thorn (E), lekkerruikpeul (A), snuifpeul (A), soetlekkerruikpeul (A), stinkpeul (A)

**ZULU** ubobe, ubombo, umnqawe, umqawe

**DESCRIPTION** Red-brown and smooth, becoming black-grey and roughly fissured with maturity; immature branches show grey to brown bark (Coates Palgrave 2002, Venter and Venter 1996).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Strongly astringent, and bark sap is reported to have coagulating properties (Watt and Breyer-Brandwijk 1962). Decoctions have intoxicating and detergent effects (Hutchings *et al.* 1996). Octasonal-1-ol, B-amylin and betulin have been elucidated from the rootbark (Prakash and Garg 1981 cited in Hutchings *et al.* 1996). Several phytochemical constituents have been isolated, including gallo-catechin, protocatechuic acid, catechol and pyrocatechol (Hutchings *et al.* 1996). Ethanol extracts have shown antigonococcal and anti-amoebic activity *in vitro*, hypotensive activity in dogs, contraction-inhibiting effects in guinea-pig ileum, and coagulation of rat and human semen (Hutchings *et al.* 1996). Stembark extracts have also shown molluscicidal and algicidal properties (Ayoub 1983, 1984 cited in Hutchings *et al.* 1996). See Trease and Evans (1983).

**USE IN KWAZULU-NATAL** Decoctions are used to soothe dry coughs and loosen phlegm (Watt and Breyer-Brandwijk 1962).

**USE IN SOUTHERN AFRICA** Decoctions are applied topically to ulcerations caused by leprosy, or taken orally for coughs (Venter and Venter 1996). Gum exuded from the stems is taken against throat and chest complaints (Venter and Venter 1996).

#### *Acacia robusta*

**FAMILY** Fabaceae — Mimosaceae

**AUTHORITY** Burch.

**SYNONYMS** *Acacia robusta* Burch. ssp. *robusta*

**ENGLISH/AFRIKAANS** ankle thorn (E), splendid acacia (E), enkel-doring (A)

**ZULU** umngamanzi, umngawe

**DESCRIPTION** Grey to dark brown, sometimes smooth, but frequently deeply fissured (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** See Trease and Evans (1983).

**USE IN KWAZULU-NATAL** Ground and mixed with water to evict snakes (Palmer and Pitman 1973). It is also used for magical purposes (Pooley 1993). It is crushed and boiled, and the steam inhaled to treat chest complaints, or the preparation applied to skin ailments (Hutchings *et al.* 1996).

**ADDITIONAL INFORMATION** *A. robusta* Burch. ssp. *clavigera* (E. Mey.) Brenan is not separated from *A. robusta* Burch. ssp. *robusta* in Zulu medicine (Hutchings *et al.* 1996).

#### *Acacia sieberiana*

**FAMILY** Fabaceae — Mimosaceae

**AUTHORITY** DC.

**SYNONYMS** *Acacia lasiopetala* sensu Burt Davy, *A. sieberiana* var. *woodii* (Burt Davy) Keay & Brenan

**ENGLISH/AFRIKAANS** Natal camel thorn (E), paper bark acacia (E), pepperbark acacia (E), papierbasdoring (A)

**ZULU** likhaya, umkhamba, umkhambati, umkhaya

**DESCRIPTION** Light brown to yellow-grey, sometimes corky, and flaking in paper-like strips (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Contains tannin (Watt and Breyer-Brandwijk 1962). Aqueous and ethanolic extracts showed *in vitro* antibacterial activity against *Staphylococcus epidermidis* and *Bacillus subtilis* (Rabe and Van Staden 1997). See Trease and Evans (1983).

**USE IN KWAZULU-NATAL** Infusions of *A. sieberiana* var. *woodii* are used in enemas to relieve back pain, and by women to relieve chafing in the genital region (Hutchings *et al.* 1996).

#### *Acacia tortilis*

**FAMILY** Fabaceae — Mimosaceae

**AUTHORITY** (Forssk.) Hayne

**SYNONYMS** *Acacia heteracantha* Burch., *A. maras* Engl., *A. litakunensis* Burch., *A. spirocarpoides* Engl.

**SSP TAXON** ssp. *heteracantha* (Burch.) Brenan

**ENGLISH/AFRIKAANS** umbrella thorn (E), fyn-haakdoring (A), haak-en-steek (A), sambreeldoring (A), tafelboom (A), wit-haakdoring (A)

**ZULU** isihoba, isishoba, isithwethwe, umsasane

**DESCRIPTION** Grey to red-brown with short hairs on immature branches, becoming grey or dark brown and fissured (Venter and Venter 1996, Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** See Trease and Evans (1983).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Pooley 1993).

#### *Acacia xanthophloea*

**FAMILY** Fabaceae — Mimosaceae

**AUTHORITY** Benth.

**ENGLISH/AFRIKAANS** fever tree (E), sulphur bark (E), geel-doringboom (A), koorsboom (A)

**ZULU** khanyagude, ukhanyagude, umdlovune, umhlofunga, umhlosinga, umkhanyagude, umkhanyakude

**DESCRIPTION** Smooth, green-yellow to yellow, flaking and powdery, but peeling in large, thick pieces in mature specimens (Venter and Venter 1996, Coates Palgrave 2002). The bark is highly char-

acteristic and common names attributable to it.

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** See Trease and Evans (1983).

**USE IN KWAZULU-NATAL** Powdered and used as a prophylactic, or emetic treatment that induces purging and sweating, for malaria (Watt and Breyer-Brandwijk 1962). It is a common good luck charm (Hutchings *et al.* 1996).

**CONSERVATION** *A. xanthophloea* was identified by both urban and rural herbalists as one of 15 species that are becoming increasingly scarce in KwaZulu-Natal (Cunningham 1988). Mander (1998) ranked it eleventh among medicinal species most frequently demanded by consumers in KwaZulu-Natal. The bark is commonly available at medicinal plant markets on the Witwatersrand (Williams *et al.* 2000). Cunningham (1988) reported that a 50kg-sized bag of bark cost R10 when purchased from gatherers at Isipingo medicinal plant market, KwaZulu-Natal.

#### *Afzelia quanzensis*

**FAMILY** Fabaceae — Caesalpinaceae

**AUTHORITY** Welw.

**SYNONYMS** *Afrazelia quanzensis* (Welw.) Pierre, *Afzelia attenuata* Klotzsch, *A. petersiana* Klotzsch, *Intsia quanzensis* (Welw.) Kuntze, *Pahudia quanzensis* (Welw.) Prain

**ENGLISH/AFRIKAANS** African mahogany (E), chamfuti (E), lucky bean (E), pod mahogany (E), red mahogany (E), Rhodesian mahogany (E), peulmahonie (A), swart-tambotie (A)

**ZULU** inkehli (seeds), inkele, isinkehle, umdlavusa, umhlakuva, umshamfuthi, unhlavusi

**DESCRIPTION** Grey-brown and with pale regions as a result of flaking, typically in round, woody scales (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Powdered bark is rubbed on eczema after python fat has been applied (Palmer and Pitman 1973).

**USE IN SOUTHERN AFRICA** Bark is infused overnight with the roots, and bathed in by huntsmen as a good luck charm (Coates Palgrave 2002). Powdered bark, mixed into the body's oil, is believed to repel attack or provocation by others (Coates Palgrave 2002). Toothache is relieved by local application of the bark (Venter and Venter 1996).

**CONSERVATION** Threatened by exploitation for its high-quality timber in southern Africa (Izidine and Bandiera 2002, Mapaura and Timberlake 2002, Msekandiana and Mlangeni 2002).

#### *Alberta magna*

**FAMILY** Rubiaceae

**AUTHORITY** E.Mey.

**SYNONYMS** *Ernistimeyera magna* (E.Mey.) Kuntze

**ENGLISH/AFRIKAANS** flame tree (E), Natal flame bush (E), breekhout (A)

**ZULU** ibutha-elikhulu, ibuthe, igampondo, igibampondo, umcumane

**DESCRIPTION** Pale grey, smooth but becoming rough and almost folded with age (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Pooley 1993).

**CONSERVATION** Globally rare (Hilton-Taylor 1996), protected and conservation-dependent in KwaZulu-Natal (Scott-Shaw 1999).

#### *Albizia adianthifolia*

**FAMILY** Fabaceae — Mimosaceae

**AUTHORITY** (Schumach.) W. Wight

**SYNONYMS** *Albizia fastigiata* (E.Mey.) Oliv., *Inga fastigiata* (E. Mey.) Oliv., *Mimosa adianthifolia* Schumach., *Zygia fastigiata* E. Mey.

**ENGLISH/AFRIKAANS** flat crown (E), rough-bark flat crown (E), platkroon (A)

**ZULU** budhlo, igowane, indlandlovu, ubudhlo, umbhelebhele, umgadankawu, umgadenkawu, umhlandothi, umnalahlanga, umnebelele, usolo

**DESCRIPTION** Smooth or rough, grey to yellowish-brown, and flaking (Van Wyk *et al.* 1997, Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** The bark is toxic (Watt and Breyer-Brandwijk 1962). A terpenoid compound was isolated from the rootbark (Roques *et al.* 1977 cited in Hutchings *et al.* 1996) and high concentrations of histamine (Mazzanti *et al.* 1983 cited in Hutchings *et al.* 1996). It has shown anti-inflammatory activity (Jäger *et al.* 1996). The barks of various *Albizia* spp. have yielded saponins, sapogenins, histamine and other imidazole derivatives, suggestive of analgesic, decongestant and topical hyposensitivity effects (Van Wyk *et al.* 1997).

**USE IN KWAZULU-NATAL** Hot or cold infusions are made with the root and applied to scabies and other skin complaints (Watt and Breyer-Brandwijk 1962). Pounded bark is used in aqueous lotions for the relief of itchy skin complaints such as eczema (Bryant 1966 cited in Hutchings *et al.* 1996). Powdered bark is taken as a snuff for headaches (Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** In Mozambique it is used to treat bronchitis (Watt and Breyer-Brandwijk 1962). Powdered bark is used as a snuff for headaches and sinusitis (Pujol 1990). Stomach ailments are treated with a weak infusion of powdered bark (approximately 5ml material in 500ml water) (Van Wyk *et al.* 1997). Eczema is treated with a highly reputed bark infusion (Van Wyk and Gericke 2000).

**CONSERVATION** *A. adianthifolia* was one of 15 species identified by urban herbalists as becoming increasingly scarce in KwaZulu-Natal (Cunningham 1988). It was ranked among the most frequently demanded medicinal plants in KwaZulu-Natal (Mander 1998). The bark is commonly traded in medicinal plant markets on the Witwatersrand (Williams *et al.* 2000).

**ADDITIONAL INFORMATION** Considered one of the most important African medicinal plants (Iwu 1993).

#### *Albizia anthelmintica*

**FAMILY** Fabaceae — Mimosaceae

**AUTHORITY** (A.Rich.) Brongn.

**SYNONYMS** *Acacia inermis* Marloth, *Acacia marlothii* Engl., *Albizia anthelmintica* (A.Rich.) Brongn. var. *australis* Bak.f., *A. anthelmintica* (A.Rich.) Brongn. var. *pubescens* Burt Davy, *A. umbalusiana* Sim, *Besenna anthelmintica* A.Rich.

**ENGLISH/AFRIKAANS** cherry-blossom tree (E), worm-bark false-thorn (E), worm-cure albizia (E), arub (A), bonthout (A), deurmekaar-valsdooring (A), kersieblomboom (A), oumaboom (A), oumahout (A), wurmbasvalsdooring (A)

**ZULU** bulani, lubulani, umnala, umnalahlanga

**DESCRIPTION** Pale grey, red-grey to brown, and smooth with prominent lenticels (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** No toxic effects were shown in clinical trials for anthelmintic properties (Watt and Breyer-Brandwijk 1962). Powdered bark has proved to be more efficient than decoctions for anthelmintic properties (Watt and Breyer-Brandwijk 1962). Rootbark contains a triterpenoid saponin, deglucosennin and echinocystic acid, and musennin, to which anthelmintic activity is attributed (Watt and Breyer-Brandwijk 1962, Tschesche and Kämmerer 1969 cited in Hutchings *et al.* 1996). Saponin fractions do not exhibit anthelmintic activity *in vitro* (Watt and Breyer-Brandwijk 1962). High concentrations of histamine are present (Mazzanti *et al.* 1983 cited in Hutchings *et al.* 1996).

**USE IN KWAZULU-NATAL** Used as an anthelmintic (Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** Used as an anthelmintic in Namibia, particularly against tapeworm (minimum dosage 60g) (Watt and Breyer-Brandwijk 1962); it is best administered as a powder (Coates Palgrave 2002).

**CONSERVATION** Traders in Mpumalanga consider the bark to be rare; bark products cost R100 kg<sup>-1</sup> (Botha *et al.* 2001).

**ADDITIONAL INFORMATION** Considered one of the most impor-

tant African medicinal plants (Iwu 1993).

***Albizia petersiana***

**FAMILY** Fabaceae — Mimosaceae

**AUTHORITY** (Bolle) Oliv.

**SSP TAXON** ssp. *evansii* (Burt Davy) Brenan

**SYNONYMS** *Acacia evansii* Burt Davy

**ENGLISH/AFRIKAANS** many-stemmed albizia (E), multi-stemmed false-thorn (E), nala tree (E), meerstam-valsoring (A), veelstamvalsoring (A)

**ZULU** umnala, umnalo, umnaloqho

**DESCRIPTION** Grey and pubescent on immature branches, becoming darker and splitting in vertical strips with maturity (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Cunningham 1988).

***Albizia suluensis***

**FAMILY** Fabaceae — Mimosaceae

**AUTHORITY** Gerstner

**ENGLISH/AFRIKAANS** Zulu albizia (E), Zulu false thorn (E), Zuluvalsoring (A)

**ZULU** ingwebu-enkulu, ingwebo omkulu, inyazangoma, ungwebo-omkulu, ungwebunkulu, unyazangoma

**DESCRIPTION** Grey and fissured (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** An irritant foam results if bark is mixed with water (Watt and Breyer-Brandwijk 1962).

**USE IN KWAZULU-NATAL** The irritant foam caused by adding water to the bark is used as a febrifuge (Watt and Breyer-Brandwijk 1962).

**CONSERVATION** *A. suluensis* is globally rare and vulnerable, and protected in KwaZulu-Natal (Cunningham 1988, Hilton-Taylor 1996, Scott-Shaw 1999). Mander (1998) ranked *A. suluensis* thirteenth out of 70 medicinal species most frequently demanded by consumers in KwaZulu-Natal. Seedling recruitment is negatively impacted by high browsing pressure in Hluhluwe-Umfolozi Park (Khumalo 2001).

***Antidesma venosum***

**FAMILY** Euphorbiaceae

**AUTHORITY** E.Mey. ex Tul.

**ENGLISH/AFRIKAANS** tassel berry (E), tasselbessie (A), voëlsitboom (A)

**ZULU** isangowane, isibangamlotha, isibangamlotha-sasenkangala, isiqutwane, umhlabahlungu, umhlabahlungulu, umhlahlanyoni, umhlahlanyoni, umnangazi, umshongi

**DESCRIPTION** Varying shades of grey or grey-brown, smooth to rough and flaking in long fibres; immature branches are covered with red-brown pubescence (Venter and Venter 1996, Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Rootbark is used to treat dysentery (Gerstner 1938 cited in Hutchings *et al.* 1996).

**ADDITIONAL INFORMATION** Notorious for the substantial white-coloured ash produced when it is burned, to which the Zulu vernacular isibangamlotha is attributed (Cunningham 2001).

***Balanites maughamii***

**FAMILY** Balanitaceae

**AUTHORITY** Sprague

**SYNONYMS** *Balanites dawei* Sprague

**ENGLISH/AFRIKAANS** green thorn (E), torch fruit tree (E), torchwood (E), fakkelhout (A), fakkelssadboom (A), groending (A), lemoending (A)

**ZULU** gobandlovu, ipamu, iphamba, iphambo, iphamu, liphambo, ugobandlovu, ugobendlovu, umgobandlovu, umnulu

**DESCRIPTION** Grey and smooth; the trunk is conspicuously fluted in large specimens (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Mild molluscicidal properties have been indicated (Pretorius *et al.* 1988 cited in Hutchings *et al.* 1996). Members of the genus *Balanites* contain steroidal glycosides derived from diosgenin and structurally related sapogenins, such as cryptogenin (Van Wyk *et al.* 1997).

**USE IN KWAZULU-NATAL** An ingredient in infusions used in rituals to protect against evil spirits: without using the hands, froth is licked from the infusion two to three times daily, then thrown over the roof to spill over the entrance to the house (Palmer and Pitman 1973). The bark is also used in an exhilarating bath (Palmer and Pitman 1973).

**USE IN SOUTHERN AFRICA** In South Africa, bark is applied as cutaneous implantations to strengthen the body, or stem- and root-bark mixed with other ingredients for emetics (Van Wyk *et al.* 1997). In Mozambique, a paste of the bark is cooked and taken orally as a general tonic, or cooked with beans to treat haematuria (Van Wyk and Gericke 2000). Decoctions are used as emetics; infusions are used to make a refreshing bath (Van Wyk and Gericke 2000).

**CONSERVATION** Classed as declining in KwaZulu-Natal (Cunningham 1988), and ranked thirteenth out of 70 medicinal species most frequently demanded by consumers in KwaZulu-Natal (Mander 1998). *B. maughamii* is heavily exploited for bark products in KwaZulu-Natal (McKean 2001 pers. comm.). In Mpumalanga Province, the bark is considered readily available and is traded at between R30 kg<sup>-1</sup> and R77 kg<sup>-1</sup> (Botha *et al.* 2001).

***Berchemia discolor***

**FAMILY** Rhamnaceae

**AUTHORITY** (Klotzsch) Hemsl.

**SYNONYMS** *Phyllogeiton discolor* (Klotzsch) Herzog

**ENGLISH/AFRIKAANS** bird plum (E), brown ivory (E), mountain date (E), wild almond (E), bruinivoor (A), meweë (A), voëlprium (A), wildedadel (A)

**ZULU** nmumu, ubalatsheni omkhulu, umadlozane, umhlongulo, umumu, uvuka, uvuku

**DESCRIPTION** Dark grey, rough and cracking in rectangular pieces (Venter and Venter 1996, Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Used as an alluring love charm (Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** Used in Venda to treat infertility (Mabogo 1990 cited in Hutchings *et al.* 1996). It is a popular traditional medicine plant in South Africa and neighbouring countries; bark is used in poultices to treat wounds (Van Wyk and Gericke 2000).

***Berchemia zeyheri***

**FAMILY** Rhamnaceae

**AUTHORITY** (Sond.) Grubov

**SYNONYMS** *Berchemia transvaalensis* N.E.Br., *Phyllogeiton zeyheri* (Sond.) Suesseng., *Rhamnus zeyheri* Sond.

**ENGLISH/AFRIKAANS** ivory wood (E), pink ivory (E), purple ivory (E), red ebony (E), red ivory (E), rooihoud (A), rooi-ivoor (A)

**ZULU** umgologolo, umncaka, umneyi, umnini

**DESCRIPTION** Grey and smooth, with pale grey lenticels, becoming darker grey or grey-brown and roughly segmented, particularly near the base, in larger specimens (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Infusions are administered orally or by enema to treat backache and rectal ulceration in children (Watt and Breyer-Brandwijk 1962). The barks of *B. zeyheri* and *Ozoroa paniculosa* var. *paniculosa* are infused as a medicine, administered orally or by enema, for dysentery in adults (Watt and Breyer-Brandwijk 1962).

**USE IN SOUTHERN AFRICA** Used by the Vhavenda to treat backache and rectal ulcers (Mabogo 1990 cited in Hutchings *et al.* 1996).

***Bersama lucens*****FAMILY** Melianthaceae**AUTHORITY** (Hochst.) Szyszyl.**SYNONYMS** *Bersama abyssinica* sensu E.Phillips, non Fresen.; *Natalitia lucens* Hochst., *Rhaganus lucidus* E.Mey.**ENGLISH/AFRIKAANS** glossy bersama (E), glossy white ash (E), blinkbaarwitessenhout (A)**ZULU** isindiyandiya, undiyaza**DESCRIPTION** Pale grey to brown and rough (Coates Palgrave 2002). Harvested bark is readily identified as *Bersama* by the presence of calcium oxalate crystals, visible in the broken cross-section of dried material (Cunningham 2001).**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Due to the presence of cardiac glycosides (Van Wyk *et al.* 1997), *Bersama* spp. are extremely toxic and may cause fatality. Bark contains high concentrations of calcium oxalate crystals (Cunningham 2001).**USE IN KWAZULU-NATAL** Used to treat female infertility, menstrual pain and impotence (Bryant 1966 cited in Hutchings *et al.* 1996, Watt and Breyer-Brandwijk 1962). *B. lucens* may be the plant known as isandiyandiya, the bark of which is used for leprosy, as a protective charm against evil and lightning, and to confuse an opponent in court (Doke and Vilakazi 1972 cited in Hutchings *et al.* 1996).**USE IN SOUTHERN AFRICA** In other parts of South Africa, finely powdered bark is snuffed to treat headaches and strokes (Pujol 1990 cited in Van Wyk *et al.* 1997, Hutchings *et al.* 1996). A tincture is used as a calmate against nervous disorders (Van Wyk and Gericke 2000).**CONSERVATION** Cunningham (1988) reported that gatherers sold a 50kg-sized bag of unidentified *Bersama* bark for R20 at Isipingo medicinal plant market, KwaZulu-Natal. Muir (1990) noted that it coppices well.***Bersama swinnyi*****FAMILY** Melianthaceae**AUTHORITY** E.Phillips**ENGLISH/AFRIKAANS** bitter-bark (E), coast bersama (E), coastal bersama (E), coastal white ash (E), Swinny's bersama (E), bitterbas (A), kuswitessenhout (A)**ZULU** isindiyandiya, umhlakaza, undiyandiya, undiyaza**DESCRIPTION** Brown and rough (Coates Palgrave 2002). Harvested bark is readily identified as *Bersama* by the presence of calcium oxalate crystals, visible in the broken cross-section of dried material (Cunningham 2001).**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Causes a characteristically strong burning sensation when tasted (Coates Palgrave 1977) and is bitter (Watt and Breyer-Brandwijk 1962). It contains high concentrations of calcium oxalate crystals (Cunningham 2001).**USE IN KWAZULU-NATAL** May be used in the same way as that of *B. lucens*, to treat reproductive complaints, leprosy and as a protective charm (Hutchings *et al.* 1996).**USE IN SOUTHERN AFRICA** Used in the Transkei region for unspecified purposes (Palmer and Pitman 1973).**CONSERVATION** Cunningham (1988) classed it as declining in KwaZulu-Natal, and reported that gatherers sold a 50kg-sized bag of unidentified *Bersama* bark for R20 at Isipingo medicinal plant market, KwaZulu-Natal.***Bersama tysoniana*****FAMILY** Melianthaceae**AUTHORITY** Oliv.**SYNONYMS** *Bersama stayneri* E.Phillips, *B. transvaalensis* Turrill**ENGLISH/AFRIKAANS** bastard sneezewood (E), bitter-bark (E), common bersama (E), common white ash (E), white ash (E), baster nishout (A), bitterbas (A), gewone witessenhout (A), water-witessenhout (A), witessenhout (A)**ZULU** indiyandiya, isindiyandiya, undiyaza**DESCRIPTION** Thick, grey to grey-brown or brown, rough and corrugated (Coates Palgrave 2002). Harvested bark is readily identified as *Bersama* by the presence of calcium oxalate crystals, visible in the broken cross-section of dried material (Cunningham 2001).**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Bitter tasting (Watt and Breyer-Brandwijk 1962), and causes characteristic burning and numbness in the mouth (Pooley 1993). It contains high concentrations of calcium oxalate crystals (Cunningham 2001).**USE IN KWAZULU-NATAL** May be used in the same way as the bark of *B. lucens*: to treat reproductive complaints, leprosy and as a protective charm (Hutchings *et al.* 1996).**USE IN SOUTHERN AFRICA** The Xhosa use it to reduce fever and hysteria; decoctions are used to treat gallsickness in cattle (Watt and Breyer-Brandwijk 1962).**CONSERVATION** Cunningham (1988) classified it as vulnerable and declining in KwaZulu-Natal. It is heavily exploited for bark products in the province (McKean 2001 pers. comm.). Cunningham (1988) reported that gatherers sold a 50kg-sized bag of unidentified *Bersama* bark for R20 at Isipingo medicinal plant market, KwaZulu-Natal. It is not readily available in Mpumalanga Province, where bark products cost between R11 kg<sup>-1</sup> and R400 kg<sup>-1</sup> (Botha *et al.* 2001).***Boscia albitrunca*****FAMILY** Capparaceae**AUTHORITY** (Burch.) Gilg & Benedict**ENGLISH/AFRIKAANS** emigrant's tree (E), coffee tree (E), shepherd's tree (E), white-stemmed tree (E), grootwitgatboom (A), jentelmanstam (A), kaboom (A), koffieboom (A), matoppie (A), noenieboom (A), witbas (A), witgat (A), witgatboom (A), witstam (A), witstamboom (A), witteboom (A), wonderboom (A)**ZULU** inyokiziphinda, isinama, umvithi**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Other plant parts have been phytochemically analysed (Watt and Breyer-Brandwijk 1962).**USE IN KWAZULU-NATAL** Used for unspecified purposes (Ndlovu 2001 pers. comm.).***Breonadia salicina*****FAMILY** Rubiaceae**AUTHORITY** (Vahl) Hepper & J.R.I.Wood**SYNONYMS** *Adina galpinii* Oliv., *A. microcephala* (Delile) Hiern, *Breonadia microcephala* (Delile) Ridsdale**ENGLISH/AFRIKAANS** African teak (E), matumi (E), Transvaal teak (E), water matumi (E), wild oleander (E), baster kiaat (A), matumi (A), mingerhout (A), water boekenhout (A), water-matoemie (A)**ZULU** hlume, umfula, umhlume**DESCRIPTION** Grey to grey-brown, rough with longitudinal fissures (Coates Palgrave 2002).**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Has astringent properties (Doke and Vilakazi 1972 cited in Hutchings *et al.* 1996).**USE IN KWAZULU-NATAL** Used to treat stomach complaints (Pooley 1993).**CONSERVATION** In Mpumalanga Province, the bark is considered readily available and in low demand (Botha *et al.* 2001).***Bridelia micrantha*****FAMILY** Euphorbiaceae**AUTHORITY** (Hochst.) Baill.**SYNONYMS** *Bridelia stenocarpa* Müll.Arg.**ENGLISH/AFRIKAANS** coastal goldenleaf (E), mitzeerie (E), mzerie (E), wild coffee (E), bruinstinkhout (A), mitserie (A)**ZULU** incinci, isihlalamangewibi, isihlalamangwibi, umhlahle, umhlalamagwababa, umhlalamgwababa, umhlalimakwaba, umhlalamkhwaba, umshonge**DESCRIPTION** Brown to grey, slightly flaking and rough in mature specimens (Coates Palgrave 2002). Immature branches are grey-

brown and smooth (Venter and Venter 1996).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Isolated constituents include epifreidelinol, taraxerol, gallic acid and ellagic acid (Pegel and Rogers (1990) cited by Hutchings *et al.* 1996).

**USE IN KWAZULU-NATAL** Infusions are taken as emetics (Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** In southern Africa, stem bark is used as a cough expectorant, as a laxative, and in therapy of diabetes (Iwu 1993). Powdered bark is applied topically to burns, and reputedly enhances the rate of healing (Venter and Venter 1996). The Vhavenda also use it to treat wounds, burns, toothache and venereal diseases (Mabogo 1990 cited in Hutchings *et al.* 1996).

***Calodendrum capense***

**FAMILY** Rutaceae

**AUTHORITY** (L.f.) Thunb.

**ENGLISH/AFRIKAANS** Cape chestnut (E), Kaapse kastaiing (A), wildekastaiing (A)

**ZULU** memezi, memezomhlope, umbhaba, umemeze omhlope, umemezilomhlope, umemeze, umemeze omhlope, umemezi omhlope, umemezomhlope

**DESCRIPTION** Light to dark grey and smooth (Venter and Venter 1996, Nichols 2001).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** A liminoid and a sesquiterpenoid have been elucidated in unspecified plant parts (Glasby 1991).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Nichols 2001).

**USE IN SOUTHERN AFRICA** Used extensively in the skin-lightener trade in the Eastern Cape Province of South Africa (La Cock and Briers 1992) and bark is sold at markets in Mpumalanga (Nichols 2001).

**CONSERVATION** In Mpumalanga Province, the bark is readily available and consumer demand high; trade prices range from R33 kg<sup>-1</sup> and R435 kg<sup>-1</sup> (Botha *et al.* 2001).

***Casearia gladiiformis***

**FAMILY** Flacourtiaceae

**AUTHORITY** Mast.

**SYNONYMS** *Casearia junodii* Schinz

**ENGLISH/AFRIKAANS** sword-leaf (E), swaardblaar (A)

**ZULU** imfe-yesele, umgunguluzane, umjuluka

**DESCRIPTION** Smooth and grey in colour (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Bark is burned and the ashes snuffed (Palmer and Pitman 1973).

**CONSERVATION** Traded in markets in KwaZulu-Natal (Cunningham 1988).

***Cassine* sp.**

**FAMILY** Celastraceae

**AUTHORITY** L.

**ZULU** umaqunda

**USE IN KWAZULU-NATAL** Infusions known as umaqunda are used as emetics in the treatment of pleurisy (Hutchings *et al.* 1996).

***Cassinopsis ilicifolia***

**FAMILY** Icacinaceae

**AUTHORITY** (Hochst.) Kuntze

**SYNONYMS** *Cassinopsis capensis* Sond.

**ENGLISH/AFRIKAANS** holly cassinopsis (E), lemon thorn (E), spiny cassinopsis (E), wild lemon (E), lemoendoring (A), lemoentijedoring (A)

**ZULU** ihlazane, ikhumalo, imamba eluhlaza, isanhloko, isihloko, isihlokozane

**DESCRIPTION** Pale grey to brown; immature branches shiny green with spines (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** A benzoisoquinoline-carboline alkaloid has been isolated in unspecified plant parts

(Glasby 1991).

**USE IN KWAZULU-NATAL** Used to treat dysentery (Doke and Vilakazi (1972) cited in Hutchings *et al.* 1996).

***Cassinopsis tinifolia***

**FAMILY** Icacinaceae

**AUTHORITY** Harv.

**ENGLISH/AFRIKAANS** false lemon thorn (E), green snake (E), mock lemon thorn, spineless cassinopsis (E), vals-lemoentijedoring (A), valselemoentijedoring (A)

**ZULU** ihlazane, ikhumalo, imamba eluhlaza, inyoka elihlaza, inyoka-eluhlaza, isolemamba, iyandezulu

**DESCRIPTION** Smooth and grey; immature stems and branches bright green (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** May be used in the same way as *C. ilicifolia*, to treat dysentery (Hutchings *et al.* 1996).

**ADDITIONAL INFORMATION** Some vernacular names refer to the bright green colour of immature stems and branches, which resemble that of the green mamba snake (Pooley 1993).

***Cassipourea flanaganii***

**FAMILY** Rhizophoraceae

**AUTHORITY** (Schinz) Alston

**ENGLISH/AFRIKAANS** Cape onionwood (E), common onionwood (E), small-leaved bastard onionwood (E), gewone uiehout (A), Kaapse uiehout (A)

**ZULU** memezi, memezilobovu, umemeze obomvu, umemezilobovu, umemezobhovu

**DESCRIPTION** Dark grey and wrinkled; branchlets covered in pubescence (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Used in medicines to heal skin diseases, and as a skin lightener (Pujol 1990 cited in Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** Extensively used for cosmetic purposes in the Eastern Cape Province of (ISER 2001).

**CONSERVATION** Classed as declining in KwaZulu-Natal (Cunningham 1988), and is increasingly scarce in the Eastern Cape Province, where it is endemic (ISER 2001). In Mpumalanga Province, *C. flanaganii*, *C. malosana* and another unidentified member of the genus are considered to be in high demand, and are traded at between R55 kg<sup>-1</sup> and R125 kg<sup>-1</sup> (Botha *et al.* 2001).

**ADDITIONAL INFORMATION** There is little distinction between *C. flanaganii* and *C. malosana* in Zulu traditional medicine (Hutchings *et al.* 1996).

***Cassipourea gummiflua***

**FAMILY** Rhizophoraceae

**AUTHORITY** Tul.

**SSP TAXON** var. *verticillata* (N.E.Br.) J.Lewis

**ENGLISH/AFRIKAANS** bastard box, large-leaved onionwood (E), onionwood (E), pillarwood (E), grootblaar-ueihout (A), ueihout (A)

**ZULU** isinuka, isinukati, isinykani, umanuka, umbhovane, umbomvana, umbomvane, umnyamanzi

**DESCRIPTION** Grey-brown and smooth (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** A thioalkaloid has been elucidated in unspecified plant parts (Glasby 1991).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Pooley 1993).

**CONSERVATION** In Mpumalanga Province, *C. flanaganii*, *C. malosana* and another unidentified member of the genus are considered to be in high demand, and are traded at between R55 kg<sup>-1</sup> and R125 kg<sup>-1</sup> (Botha *et al.* 2001).

***Cassipourea malosana***

**FAMILY** Rhizophoraceae

**AUTHORITY** (Baker) Alston

**SYNONYMS** *Cassipourea elliottii* (Engl.) Alston, *C. gerrardii* (Schinz) Alston, *Weihea gerrardii* Schinz

**ENGLISH/AFRIKAANS** bastard onionwood (E), common onionwood (E), lesser onionwood (E), onionwood (E), baster-ueihout (A), gewone ueihout (A), tolbalie (A), tolbolle (A), ueihout (A)

**ZULU** memezi, memezilobovu, umemeze obomvu, umemezilobovu, umemezobhovu, umgamakhulu, umhlwakela, umkhathane

**DESCRIPTION** Pale grey to grey-brown, becoming darker and rough with maturity (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Thioalkaloids have been elucidated in unspecified plant parts (Glasby 1991). Compounds isolated from the bark include novel dimeric A-type proanthocyanidins (Drewes *et al.* 1996).

**USE IN KWAZULU-NATAL** Used similarly to *C. flanaganii*, in medicines to heal skin diseases, and as a skin lightener (Pujol 1990 cited in Hutchings *et al.* 1996). Skin lighteners are prepared with finely powdered bark, sodium carbonate and milk, and applied as a face pack (Drewes *et al.* 1996). It is also used to treat pimples and relieve sunburn (Van Wyk and Gericke 2000).

**CONSERVATION** Cunningham (1988) classed it as declining in KwaZulu-Natal. It is traded widely in South Africa (Mander *et al.* 1997), and heavily exploited for bark products in KwaZulu-Natal (McKean 2001 pers. comm.). Cunningham (1988) reported that a 50kg-sized bag of bark cost up to R40 from gatherers at Isipingo medicinal plant market, KwaZulu-Natal. In Mpumalanga Province, *C. flanaganii*, *C. malosana* and another unidentified member of the genus are considered to be in high demand, and cost between R55 kg<sup>-1</sup> and R125 kg<sup>-1</sup> (Botha *et al.* 2001). Since *C. malosana* usually occurs in aggregated populations (Cunningham 1991), harvesting pressure affects entire populations at a time. Coppice production may be prolific (Muir 1990).

**ADDITIONAL INFORMATION** There is little distinction between *C. flanaganii* and *C. malosana* (Baker) Alston in Zulu traditional medicine (Hutchings *et al.* 1996).

#### *Catha edulis*

**FAMILY** Celastraceae

**AUTHORITY** (Vahl) Forssk. ex Endl.

**SYNONYMS** *Methyscophyllum glaucum* Eckl. & Zeyh.

**ENGLISH/AFRIKAANS** Abyssinian tea (E), Arabian tea (E), Bushman's tea (E), khat (E), Boesmanstee (A), kat (A), khat (A), spelonke-tee (A), spelonktee (A), khat (Arabic)

**ZULU** ingwavuma, umhlawazizi, umhlwazi, umlomomnandi, umlomomnazi, umlomomnanzilobhovu

**DESCRIPTION** Pale grey and smooth when immature, becoming grey to grey-brown and roughly cracked in squares with maturity (Coates Palgrave 2002). Bark on immature branches is smooth and green, sometimes pink-toned (Venter and Venter 1996).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Chewing the leaves has become a social habit in many countries of east Africa and the Arabian Peninsula (Iwu 1993). Accordingly, extensive research has been conducted on the leaves, but there is poor documentation of the bark. See Trease and Evans (1983).

**USE IN KWAZULU-NATAL** Decoctions are used as nerve tonics, cardiac stimulants, and appetite stimulants: bark is boiled in water for ten minutes, and no more than two tablespoons (22ml) taken daily (Pujol 1990 cited in Hutchings *et al.* 1996). It is also used as a remedy for flatulence (Gerstner 1939 cited in Hutchings *et al.* 1996).

**CONSERVATION** Hilton-Taylor (1996) classified *C. edulis* as vulnerable in KwaZulu-Natal, and Scott-Shaw (1999) as lower risk.

#### *Chaetachme aristata*

**FAMILY** Ulmaceae

**AUTHORITY** E.Mey. ex Planch.

**SYNONYMS** *Chaetacme meyeri* Harv., *C. nitida* Planch. & Harv.

**ENGLISH/AFRIKAANS** thorny elm (E), basterpeer (A), doringelm (A), doringolm (A), baster-witpeer (A)

**ZULU** umbambangwe, umhangbangwe, umkhovothi

**DESCRIPTION** Pale grey, and may have single or paired spines (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Used to treat haemorrhoids (Watt and Breyer-Brandwijk 1962).

#### *Cinnamomum camphora*\*

**FAMILY** Lauraceae

**AUTHORITY** (L.) J.Presl.

**ENGLISH/AFRIKAANS** camphor tree (E), kanferboom (A)

**ZULU** uloselina, ulosilina, uroselina

**DESCRIPTION** Pale brown with characteristic coarse fissures and distinctive scent (Van Wyk *et al.* 1997).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Contains the ketone camphor, which is toxic in large doses and results in respiratory failure (Watt and Breyer-Brandwijk 1962). It should not be used internally without supervision, and should not be used as an inhalant in young children (Hutchings *et al.* 1996, Van Wyk *et al.* 1997). Natural camphor, obtained from the wood, has largely been replaced by the synthetic racemic camphor, obtained from pinene (Van Wyk *et al.* 1997). Camphor oil contains safrole, borneol, heliotropin, terpineol and vanillin (Williamson and Evans 1988 cited in Hutchings *et al.* 1996). The primary active ingredient of commercial camphor oil is (+)-(1R)-Camphor (George *et al.* 2001). Camphor has antiseptic, counter-irritant, stimulant, carminative and analeptic properties (Van Wyk *et al.* 1997). In low dosage, camphor warms and soothes the epigastric region; high dosages cause nausea, vomiting and epileptiform convulsions (Hutchings *et al.* 1996). It is commonly used in modern medicine in liniments for muscle stiffness, and as a topical anti-infective and antiseptic; it is used internally as a stimulant and carminative both medically and in veterinary medicine (Hutchings *et al.* 1996, Van Wyk *et al.* 1997). Synthetic camphor is used for cardiac and respiratory analeptic preparations (Van Wyk *et al.* 1997). See Trease and Evans (1983).

**USE IN KWAZULU-NATAL** Used as emetics for love charms and perfume scent (Cunningham 1988), and is a very popular medicine (Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** Popular medicine in South Africa, used for fever, colds and influenza, and to relieve abdominal discomfort (Van Wyk and Gericke 2000).

**CONSERVATION** *C. camphora* was one of 15 species nominated by urban herbalists as becoming increasingly scarce in KwaZulu-Natal (Cunningham 1988), and on the Witwatersrand (Williams *et al.* 2000). A 50kg-sized bag of bark cost R15 from gatherers at Isipingo medicinal plant market, KwaZulu-Natal (Cunningham 1988). In Mpumalanga Province, consumer demands are high, and bark products are traded at between R43 kg<sup>-1</sup> and R132 kg<sup>-1</sup> (Botha *et al.* 2001). Due to its popularity, it is sometimes cultivated at herbalists' homesteads (Hutchings *et al.* 1996). Despite the perceived scarcity of the species, it is an invasive exotic (from China, Taiwan and Japan) that grows well in South Africa. It is a declared weed in KwaZulu-Natal, Limpopo (Northern Province) and Mpumalanga and invades forest margins, coastal bush and riverbanks (Henderson 2001).

**ADDITIONAL INFORMATION** The vernacular name urosalina is after a girls' name, due to its use as a love charm and scent (Cunningham 1988).

#### *Cinnamomum zeylanicum*\*

**FAMILY** Lauraceae

**AUTHORITY** (Burch.) Baill.

**ZULU** mondi, umondi

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Contains up to 4% essential oil, comprising cinnamaldehyde, cinnamyl acetate, cuminaldehyde, eugenol and methyleugenol (Williamson and Evans 1988 cited in Hutchings *et al.* 1996). Other constituents include phlobatannin, mucilage, calcium oxalate and starch, and has mild astringent and anti-diarrhoeal properties (Trease and Evans 1983).



The oil exhibits carminative, antifungal and antiviral properties, and enhances trypsin activity (Hutchings *et al.* 1996). See Trease and Evans (1983).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** In other parts of the region, the bark is used as a carminative (Iwu 1993).

**ADDITIONAL INFORMATION** Considered to be among the most important medicinal plants used in Africa (Iwu 1993).

#### *Cleistanthus schlechteri*

**FAMILY** Euphorbiaceae

**AUTHORITY** (Pax) Hutch.

**SSP TAXON** var. *schlechteri*

**SYNONYMS** *Cleistanthus holtzii* Pax, *Securinea schlechteri* Pax

**ENGLISH/AFRIKAANS** bastard tamboti (E), bastard tambotie (E), false tamboti (E), false tambotie (E), baster-tambotie (A), vals-tambotie (A)

**ZULU** umzithi

**DESCRIPTION** Dark grey to black-brown and roughly striated (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** A diterpenoid has been isolated in unspecified plant parts (Glasby 1991).

**USE IN KWAZULU-NATAL** Powdered bark is used in the treatment of burns (Pooley 1993).

#### *Combretum caffrum*

**FAMILY** Combretaceae

**AUTHORITY** (Eckl. & Zeyh.) Kuntze

**SYNONYMS** *Combretum salicifolium* E.Mey.

**ENGLISH/AFRIKAANS** bushveld willow (E), bush willow (E), Cape bush willow (E), bos wilgerboom (A), Kaapse vaderlandswilg (A), vaderlandswilgerboom (A), rooiblaar (A), rooiboswilg (A), vaderlandswilg (A)

**ZULU** umdubu

**DESCRIPTION** Grey to grey-brown, striated and marked with lenticels, becoming rough with age (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Antimicrobial activity has been confirmed in other members of the genus (Martini and Eloff 1998). Extensive investigations have been conducted on the leaves. See Trease and Evans (1983), Rogers and Verotta (1996) and McGaw *et al.* (2001).

**USE IN KWAZULU-NATAL** Rootbark is used as a charm to harm the enemy (Watt and Breyer-Brandwijk 1962).

#### *Combretum molle*

**FAMILY** Combretaceae

**AUTHORITY** R.Br. ex G.Don

**SYNONYMS** *Combretum atelanthum* Diels, *C. gueinzii* Sond., *C. holosericeum* Sond., *C. velutinum* DC.

**ENGLISH/AFRIKAANS** velvet bush willow (E), velvet-leaved bush willow (E), velvet-leaved combretum (E), baster-rooibos (A), fluweel-boswilg (A), hardekool (A), rooibos (A)

**ZULU** umbondo (root), umbondwe (root), umbondwe-omhlope

**DESCRIPTION** Grey, grey-brown to black, roughly fissured, and sometimes flaking (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Triterpenoids have been isolated in unspecified plant parts (Glasby 1991). Extensive investigations have been conducted on the leaves. See Trease and Evans (1983), Rogers and Verotta (1996), Martini and Eloff (1998) and McGaw *et al.* (2001).

**USE IN KWAZULU-NATAL** Inner bark is infused and used for stomach complaints (Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** Inner bark is infused and taken to relieve stomach complaints (Coates Palgrave 1977). In Venda, the bark is used to treat intestinal parasites (Mabogo 1990 cited in Hutchings *et al.* 1996). In Swaziland, 30g bark is ground with the

same quantities of *Lippia javanica* Spreng. and boiled in 5 litres water for 5 minutes, and the mixture taken three times daily for five days to treat asthma (Amusan *et al.* 2002).

**ADDITIONAL INFORMATION** Considered to be among the most important medicinal plants used in Africa (Iwu 1993).

#### *Combretum zeyheri*

**FAMILY** Combretaceae

**AUTHORITY** Sond.

**ENGLISH/AFRIKAANS** large-fruited bush willow (E), large-fruited combretum (E), Zeyher's bush willow (E), fluisterboom, Nikbaaseklapper, raasblaar (A), raasbos (A), raasklapper (A), wurmhout (A)

**ZULU** umbondwe-mhlope, umbondwe wasembundwini

**DESCRIPTION** Grey or grey-brown, or red-toned on immature branchlets, smooth to finely fissured and flaking in small pieces resulting in a mottled appearance (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Three antimicrobial compounds were isolated from the stembark (Breytenbach and Malan 1989). Lindsey *et al.* (1999) reported *in vitro* anti-inflammatory and contraction-inducing activity. An alkaloid has been elucidated in unspecified plant parts (Glasby 1991). See Trease and Evans (1983), Rogers and Verotta (1996) and McGaw *et al.* (2001).

**USE IN KWAZULU-NATAL** Used to treat gallstones (Pooley 1993).

**USE IN SOUTHERN AFRICA** In other regions of southern Africa, decoctions are used as purgatives, in treatment of leprosy, and as a blood purifier (Roberts 1990).

#### *Commiphora africana*

**FAMILY** Burseraceae

**AUTHORITY** (A.Rich.) Engl.

**SYNONYMS** *Commiphora calciicola* Engl., *C. pilosa* (Engl.) Engl., *C. sambesiaca* Engl., *Heudelotia africana* A.Rich.

**ENGLISH/AFRIKAANS** hairy corkwood (E), poison-grub commiphora (E), harige kanniedood (A)

**ZULU** uminyela

**DESCRIPTION** Grey to green, smooth and somewhat succulent, occasionally peeling in small yellow flakes; pale gum is exuded on wounding (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Resin contains free terpenoids and terpenoid glycosides; gum contains polyholosides (Hutchings *et al.* 1996). Gum resin reportedly contains 70% resin and 29% gum (Watt and Breyer-Brandwijk 1962).

**USE IN KWAZULU-NATAL** Gum and resin are used to reduce fever (Pooley 1993), and for magical purposes (Hutchings *et al.* 1996). The bark is used for unspecified purposes.

**USE IN SOUTHERN AFRICA** It is used in washes, mixed with salt, and applied to snakebites (Watt and Breyer-Brandwijk 1962, Coates Palgrave 2002).

**CONSERVATION** Lower risk in Namibia (Craven and Loots 2002).

#### *Cordyla africana*

**FAMILY** Fabaceae — Caesalpinaceae

**AUTHORITY** Lour.

**ENGLISH/AFRIKAANS** wild mango (E), sunbird tree (E), suikerbekkieboom (A), wilde-mango (A)

**ZULU** igowane-elikhulu, igowane-lehlati, umbhone, umbohone

**DESCRIPTION** Brown or grey and rough with longitudinal fissures; exudes a gum resin (Coates Palgrave 1977, 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Isoflavonoids are present in unspecified plant parts (Glasby 1991).

**USE IN KWAZULU-NATAL** Used for unspecified purposes in northern KwaZulu-Natal (Cunningham 1988).

**CONSERVATION** Hilton-Taylor (1996) reported that it is not threatened in KwaZulu-Natal. In Zambia (Bingham and Smith 2002) and Swaziland (Dlamini and Dlamini 2002) it is considered to be of lower risk.

***Croton gratissimus*****FAMILY** Euphorbiaceae**AUTHORITY** Burch.**SYNONYMS** *Croton gratissimus* var. *subgratissimus*, *C. subgratissimus* Prain, *C. zambesicus* Müll. Arg.**ENGLISH/AFRIKAANS** Kalahari buku (E), lavender croton (E), lavender fever-berry (E), hairy lavender fever-berry (E), Berg-boegoe (A), boeghout (A), harige laventel-koorsbessie (A), Kalahari-boegoe (A), Korana-boegoe (A), laventelbos (A), laventel-koorsbessie (A), leventelbos (A), macqassi (A), makwassieboom (A), rek-stokbos (A), stinkhout (A)**ZULU** ihubeshane-elikhulu, ilabele, ilethi (leaves/stem), inkubathi, intumbanhlosi, isikhumampuphu, liletha, liletsa, uhubeshane (root), umahlabekufeni (leaves/stem), umhluka, umhluluga**DESCRIPTION** Dark to pale grey and rough (Van Wyk *et al.* 1997, Coates Palgrave 2002).**PHYTOCHEMICAL/PHYSICAL PROPERTIES** *C. gratissimus* is reputedly toxic, and shows cathartic and irritant properties (Bryant 1909 cited in Cunningham 1988). Toxic diterpenoids typical of *Croton* spp. cause burning in the throat and mouth (Watt and Breyer-Brandwijk 1962), and irritate the skin and mucosae (Bruneton 1995). Although little is known of the chemical constituents of this species, a variety of compounds have been isolated from other members of the genus (Van Wyk *et al.* 1997). The bark contains croton and the isoquinoline alkaloid, nuciferene (Hutchings *et al.* 1996).**USE IN KWAZULU-NATAL** Small pieces of bark are pulverised in approximately 125ml milk or broth, infused, and used as a purgative for severe stomach and intestinal disorders (Bryant 1966 cited in Hutchings *et al.* 1996, Cunningham 1988). It is ground and mixed with dried root of a member of the Amaryllidaceae, and rubbed into incisions as an irritant against inflammation and chest pains (Hutchings *et al.* 1996). Bark powder may also be mixed with that of *Ocotea bullata* and a little ginger [*Zingiber officinale* root?], and blown into the womb via a hollow reed, to treat uterine disorders (Watt and Breyer-Brandwijk 1962, Hutchings *et al.* 1996).**USE IN SOUTHERN AFRICA** *C. gratissimus* is an important medicinal plant (used primarily for its bark) in southern Africa, due to its wide distribution in the region (Van Wyk and Gericke 2000). Charred, powdered bark is used to brush bleeding gums (Watt and Breyer-Brandwijk 1962). It is also used to relieve rheumatism, chest complaints, indigestion and oedema (Watt and Breyer-Brandwijk 1962, Pujol 1990 cited in Van Wyk *et al.* 1997).**ADDITIONAL INFORMATION** Two varieties (*C. gratissimus* Burch. var. *gratissimus* and *C. gratissimus* Burch. var. *subgratissimus* (Prain) Burt Davy) are seldom recognised in the literature.***Croton sylvaticus*****FAMILY** Euphorbiaceae**AUTHORITY** Hochst. ex C. Krauss**ENGLISH/AFRIKAANS** forest croton (E), fever tree (E), forest fever-berry (E), bos-koorsbessie (A), koorsboom (A), without (A)**ZULU** amahlabekufeni, indumbahlozi, minya, ugibeleweni, umgeleweni, umhlalajuba, umhloshozane, umhloshazana, umhloshozane, uminya, ummbila, umzilanyoni**DESCRIPTION** Variable shades of grey, smooth with shallow vertical pink striations, becoming rough with maturity (Coates Palgrave 2002). Immature branches covered with orange hairs (Venter and Venter 1996).**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Members of the genus are reputedly toxic, and medicinal use is potentially dangerous (Van Wyk *et al.* 1997). Its use as a fish poison suggests the bark has toxic properties (Coates Palgrave 2002). Although a variety of compounds have been isolated from other members of the genus, little is known of *C. sylvaticus* (Van Wyk *et al.* 1997). Diterpenoids typical of the genus cause burning in the mouth and throat (Watt and Breyer-Brandwijk 1962), and irritation of the skin and mucosa(Bruneton 1995). The bark is strongly aromatic (Venter and Venter 1996), yields 2.7% tanning compounds (Hutchings *et al.* 1996), and has shown *in vitro* anti-inflammatory activity (Jäger *et al.* 1996).**USE IN KWAZULU-NATAL** Used in similar ways to *C. gratissimus* in therapy of abdominal disorders, internal inflammation, dropsical swellings, uterine disorders (Bryant 1966 cited in Hutchings *et al.* 1996) and in enemas for febrile conditions (Gerstner 1939 cited in Hutchings *et al.* 1996, Watt and Breyer-Brandwijk 1962). Bark known as umzilanyoni, possibly *C. sylvaticus*, is boiled with salt and medicinal herbs as a tonic for listlessness (Hutchings *et al.* 1996).**USE IN SOUTHERN AFRICA** Like *C. gratissimus*, it is an important medicinal plant used primarily for its bark in southern Africa, due to its wide distribution in the region (Van Wyk and Gericke 2000). Powdered bark is used in Swazi ethnoveterinary medicine to treat gallsickness in cattle (Watt and Breyer-Brandwijk 1962). Charred, powdered bark is used to brush bleeding gums (Watt and Breyer-Brandwijk 1962). It is also used to relieve rheumatism, chest complaints, indigestion and oedema (Watt and Breyer-Brandwijk 1962, Pujol 1990 cited in Van Wyk *et al.* 1997).**CONSERVATION** The bark is one of the most commonly stocked products on the Witwatersrand (Williams 1996).***Cryptocarya latifolia*****FAMILY** Lauraceae**AUTHORITY** Sond.**ENGLISH/AFRIKAANS** broad-leaved quince (E), bastard stinkwood (E), Nitonga nut (E), wild quince (E), baster-stinkhout (A), basterswartysterhout (A), breëblaar-kweper (A), Pondo-kweper (A), wildekweper (A)**ZULU** umhlangwenya, umkhondweni, umngqabe, umthungwa, undlangwenya**DESCRIPTION** Grey-brown to pale brown, smooth but finely fissured and with occasional horizontal ridges (Coates Palgrave 2002).**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Contains a-pyrone such as cryptofolione, but does not contain ocobullenone, the major constituent of *Ocotea bullata*, for which *Cryptocarya* spp. are substituted (Drewes *et al.* 1996). Extracts show greater cyclooxygenase-inhibiting activity than *O. bullata* bark extracts (Zschocke and Van Staden 2000).**USE IN KWAZULU-NATAL** Ground bark is mixed with crocodile fat to treat chest complaints (Gerstner 1941 cited in Hutchings *et al.* 1996). Muscular cramps are treated with infusions of finely powdered bark, administered morning and evening in 250ml doses (Pujol 1990 cited in Hutchings *et al.* 1996). Decoctions are administered as enemas to treat internal pains, uterine spasm, menstrual pain and urinary tract diseases (Cunningham 1988, Pujol 1990 cited in Hutchings *et al.* 1996).**CONSERVATION** Cunningham (1988) classed it as declining in KwaZulu-Natal. It is heavily exploited for bark products in KwaZulu-Natal (McKean 2001 pers. comm.). It shows good coppicing ability (Pooley 1993).**ADDITIONAL INFORMATION** Large coppice leaves may be confused with *Ocotea bullata* (Pooley 1993).***Cryptocarya myrtifolia*****FAMILY** Lauraceae**AUTHORITY** Stapf**SYNONYMS** *Cryptocarya vacciniifolia* Stapf**ENGLISH/AFRIKAANS** camphor laurel (E), camphor tree (E), myrtle quince (E), wild camphor tree (E), kanferboom (A), mirte-kweper (A), wilde-kanferboom (A)**ZULU** igqeba, umkhondweni, umnqabe**DESCRIPTION** Brown and smooth with pubescence on immature branchlets (Coates Palgrave 2002).**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Contains a-pyrone such as cryptofolione, but does not contain ocobullenone, the major

constituent of *Ocotea bullata*, for which *Cryptocarya* spp. are substituted (Drewes *et al.* 1996). Extracts show greater cyclooxygenase-inhibiting activity than *Ocotea bullata* bark extracts (Zschocke and Van Staden 2000). It has a distinct camphor-like odour (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Used as a substitute for the bark of *Ocotea bullata* (Hutchings *et al.* 1996).

**CONSERVATION** *C. myrtifolia* is of lower risk conservation status in KwaZulu-Natal (Scott-Shaw 1999). Mander (1998) reported that it is among the medicinal species most frequently demanded by consumers in KwaZulu-Natal. It is heavily exploited for bark products (McKean 2001 pers. comm.). Debarked trees do not recover easily, and coppice production from bark wounds and basal regions is poor (Geldenhuys 2001b). Bark harvesting should be limited to narrow vertical strips to facilitate regeneration (Geldenhuys 2001b).

#### *Cryptocarya woodii*

**FAMILY** Lauraceae

**AUTHORITY** Engl.

**SYNONYMS** *Cryptocarya acuminata* Schinz & Sim

**ENGLISH/AFRIKAANS** bastard camphor tree (E), Cape laurel (E), Cape quince (E), baster-kanferboom (A), Kaapse kweper (A)

**ZULU** ingayi-elimnyama, isililandangulube, umnqabe, umnqabeq, umthongwane

**DESCRIPTION** Grey, smooth to wrinkled (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Contains a-pyrone such as cryptofolione, but does not contain olobullene, the major constituent of *Ocotea bullata*, for which *Cryptocarya* spp. are substituted (Drewes *et al.* 1996). Extracts show greater cyclooxygenase-inhibiting activity than *Ocotea bullata* bark extracts (Zschocke and Van Staden 2000).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Pooley 1993).

**CONSERVATION** May regenerate by coppicing. Muir (1990) reported 56% of cut stems produced coppice shoots in Hlatikulu Forest Reserve, Maputaland. Geldenhuys (2001a) considered it a key species damaged by bark harvesting in the Umzimkulu district of KwaZulu-Natal.

#### *Cupressus* sp.\*

**FAMILY** Cupressaceae

**AUTHORITY** L.

**ZULU** abanqongqosi

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Cunningham 1988). The bark of an unidentified member of the genus is used as a love charm: bark is chewed, spat into the wind and the name of the loved one repeated (Hutchings *et al.* 1996).

#### *Curtisia dentata*

**FAMILY** Cornaceae

**AUTHORITY** (Burm.f.) C.A.Sm.

**SYNONYMS** *Curtisia faginea* Aiton

**ENGLISH/AFRIKAANS** assegai (E), assegai (A), asgai (A), assegaaiboom (A), assegaaihout (A)

**ZULU** igejalibomvu, ijundumhlahleni, inkunzitwalitshe, inphephelangeni, inphephelelangani, isejalibomvu, isitunduinkunzitwalitshe, umagunda, umgxcina, umhlahlenisefile, umhlahleni, umhlahlenisefile, unhlibe

**DESCRIPTION** Brown and smooth, becoming darker and broken into square fissures with maturity (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** *C. dentata*, like other members of the Cornaceae, contains tannins, which have anti-diarrhoeal effects due to antiseptic and vasoconstrictor properties, and form protective layers on the skin and mucous membranes (Van Wyk *et al.* 1997). McGaw *et al.* (2000) reported antibacterial activity of polar bark extracts against *Bacillus subtilis*.

**USE IN KWAZULU-NATAL** Used to treat stomach ailments and diarrhoea, and as a blood strengthener and aphrodisiac (Pujol 1990 cited in Hutchings *et al.* 1996). It is of notable popularity in KwaZulu-Natal, but scarcity has led to its use only in 'special' bark mixes known as 'ikhubalo' (Cunningham 1988).

**USE IN SOUTHERN AFRICA** Used in skin-lighteners in the Eastern Cape Province of South Africa (La Cock and Briers 1992).

**CONSERVATION** Cunningham (1988) classified it as vulnerable and declining in KwaZulu-Natal; Scott-Shaw (1999) classed it as conservation-dependent in the province, and it is legally protected (Scott-Shaw 1999). *C. dentata* was identified by Cunningham (1988) as one of 15 species nominated by both urban and rural herbalists as becoming increasingly scarce in KwaZulu-Natal. Cunningham (1988) reported that a 50kg-sized bag of bark cost R30 from gatherers at Isipingo medicinal plant market, KwaZulu-Natal, compared to R8 in 1960. It is heavily exploited and widely traded in South Africa (Mander *et al.* 1997). It was ranked the fifth most frequently demanded medicinal species in KwaZulu-Natal; this ranking is influenced by its occurrence in the forest biome (Mander 1998). *C. dentata* is considered to be a reliable indicator species in the assessment of bark harvesting (La Cock and Briers 1992). Prolific coppice is produced from the basal region and debarked wounds, but shoots are susceptible to browsing (Cunningham 1991, Geldenhuys 2001b). Coppice production is best from the stump when a tree is felled (Geldenhuys 2001b).

#### *Cussonia spicata*

**FAMILY** Araliaceae

**AUTHORITY** Thunb.

**SYNONYMS** *Cussonia kraussii* Hochst.

**ENGLISH/AFRIKAANS** cabbage tree (E), common cabbage tree (E), false cabbage tree (E), Lowveld cabbage tree (E), basterkiepersol (A), gewone kiepersol (A), kiepersol (A), Laeveld kiepersol, nooiensboom (A), sambreelboom (A), waaiboom (A)

**ZULU** umbegele, umbumbu, umgezisa, umsenge, umsengembuzi

**DESCRIPTION** Grey, thick and corky (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Anthocyanins, tannins and alkaloids have been identified in the rootbark (Chhabra *et al.* 1984 cited in Hutchings *et al.* 1996). Molluscicidal properties of the stembark are attributed to two saponins, both of which show spermicidal activity against human spermatozooids (Gunzinger *et al.* 1986 cited in Hutchings *et al.* 1996). Extracts showed antibacterial activity against *Staphylococcus aureus* but poor inhibition of the malaria parasite *Plasmodium falciparum* (Tetyana *et al.* 2000).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** Elsewhere in South Africa, the bark is shaved and rasped for use in a hot aqueous poultice to relieve muscular spasm and cramps (Roberts 1990). It is used to treat malaria in Venda, Zimbabwe (Mabogo 1990 cited in Hutchings *et al.* 1996). In unspecified parts of the region, it is used in therapy of stomach ulcers and for magical purposes Hutchings *et al.* 1996).

#### *Dialium schlechteri*

**FAMILY** Fabaceae — Caesalpinaceae

**AUTHORITY** Harms

**SYNONYMS** *Andradia arborea* Sim

**ENGLISH/AFRIKAANS** sherbet tree (E), Zulu podberry (E), Zoeloepeulbessie (A)

**ZULU** umthiba

**DESCRIPTION** Mottled pale grey and smooth (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Ground bark is used as a topical treatment for burns (Palmer and Pitman 1973).

**CONSERVATION** Not threatened in KwaZulu-Natal (Hilton-Taylor 1996).

***Diospyros pallens***

FAMILY Ebenaceae

AUTHORITY (Thunb.) F.White

ENGLISH/AFRIKAANS bloubos (A)

ZULU umncande

USE IN KWAZULU-NATAL Used in the treatment of dysentery (Gerstner 1941 cited in Hutchings *et al.* 1996).***Diospyros villosa***

FAMILY Ebenaceae

AUTHORITY (L.) De Winter

SSP TAXON var. *villosa*SYNONYMS *Royena scabra* Burm.f., *R. villosa* L.

ENGLISH/AFRIKAANS hairy star-apple (E), shaggy diospyros (E), bloubos (A), harige rank-tolbos (A), harige sterappel (A), swartbas (A)

ZULU dodemnyama, indlodemanyama, indodemnyama, umbishimbishi, umbongisa, umdodemnyama, umqandane wesempisi, umqandane wezimpisi

DESCRIPTION Grey to black, smooth becoming rough with maturity (Coates Palgrave 2002).

USE IN KWAZULU-NATAL Powdered and roasted rootbark is rubbed into incisions made on fractures and sprains (Hutchings *et al.* 1996).***Dombeya rotundifolia***

FAMILY Sterculiaceae

AUTHORITY (Hochst.) Planch.

SSP TAXON var. *rotundifolia*SYNONYMS *Dombeya densiflora* Planch ex Harv., *D. multiflora* Planch var. *vestita* K.Schum.

ENGLISH/AFRIKAANS blossom tree (E), common wild pear (E), wild pear (E), wild plum (E), blomhout (A), bruid-van-die-bosveld (A), buffelspeer (A), dikbas (A), dikbasboom (A), dralpeer (A), drolpeer (A), gewone drolpeer (A)

ZULU inhiziyonkhulu, inhlizya enkulu, isadlulambazo, linyathelolendlovu, unhliziyonkulu

DESCRIPTION Dark brown, corky and furrowed; immature branches are grey, smooth but conspicuously marked by lenticels (Venter and Venter 1996, Van Wyk *et al.* 1997).PHYTOCHEMICAL/PHYSICAL PROPERTIES Duncan *et al.* (1999) reported that bark extracts show angiotensin converting enzyme (ACE) inhibitors, indicating possible usefulness in treating hypertension. Extracts of differing polarities showed antibacterial activity against *Escherichia coli*, *Klebsiella pneumoniae*, *Staphylococcus aureus* and *S. epidermidis*, but bacteriostatic effects were noted only by an ethanol extract against *Micrococcus luteus* (Reid *et al.* 2001). Ethanol and dichloromethane extracts exhibited high prostaglandin synthesis inhibition *in vitro*, indicative of analgesic or anti-inflammatory activity (Reid *et al.* 2001). Saponins and cardiac glycosides were identified (Reid *et al.* 2001).USE IN KWAZULU-NATAL Inner bark is used for cardiac weakness (Gerstner 1941 cited in Hutchings *et al.* 1996). Infusions are administered orally or by enema to treat intestinal ulceration (Watt and Breyer-Brandwijk 1962). Bark is further used in medicines for palpitations and nausea (particularly in pregnant women): decoctions are steeped and taken in doses of approximately 150ml (Pujol 1990 cited in Hutchings *et al.* 1996).USE IN SOUTHERN AFRICA Contains tough, inflexible fibres; they are used in some parts of South Africa to bind wounds, or splints for broken limbs in humans and livestock (Roberts 1990). Tea made with the bark (250ml bark boiled in two litres water for two hours, cooled and strained) is used to treat delayed menstruation (Roberts 1990), as an abortifacient or to induce labour (Watt and Breyer-Brandwijk 1962). In addition, the tea is used to treat palpitations, internal ulcers, nausea, stomach ailments, acute diarrhoea, haemorrhoids and chest complaints (Roberts 1990, Venter and Venter 1996, Van Wyk *et al.* 1997).

CONSERVATION In Namibia it is considered to be of lower risk (Craven and Loots 2002).

***Drypetes gerrardii***

FAMILY Euphorbiaceae

AUTHORITY Hutch.

SYNONYMS *Drypetes battiscombei* Hutch., *D. gerrardii* Hutch. var. *gerrardii*, *D. gerrardii* Hutch. var. *tomentosa* Radcliffe-Sm

ENGLISH/AFRIKAANS bastard white ironwood (E), forest ironplum (E), forest ironwood (E), hairy drypetes (E), bosysterpruim (A)

ZULU isikhumphuphu, umhlawekele, umhlwakele, umtwakela

DESCRIPTION Grey or grey-brown and smooth (Coates Palgrave 2002).

USE IN KWAZULU-NATAL Used for unspecified purposes (Cunningham 1988).

CONSERVATION Muir (1990) reported that 47% of cut stems showed coppice regeneration at Hlatikulu Forest Reserve, Maputaland.

***Ekebergia capensis***

FAMILY Meliaceae

AUTHORITY Sparrm.

SYNONYMS *Ekebergia buchananii* Harms, *E. meyeri* Presl ex C. DC., *E. rueppelliana* (Fresen.) A.Rich., *Trichilia ekebergia* E.Mey ex Sond.

ENGLISH/AFRIKAANS Cape ash (E), dogplum (E), mountain ash (E), esboom (A), essenhout (A), Kaapse essenhout (A), rooiessenhout (A), rooiesshout (A), Transvaal-essenhout (A), vaal-essenhout (A)

ZULU isimanaye, linyamatsi, umathunzini, umathunzi wentaba, umathunzini-wentaba, umathunzini-we-zintaba, umathuzini, umathuzini-wentaba, umgwenyana weinja, umgwenyana wezinja, umnyamathi, umthoma, usimanaye, uvungu

DESCRIPTION Palmer and Pitman (1973) and Coates Palgrave (2002) described the bark as grey-green, pale grey to black and smooth, whilst Van Wyk *et al.* (1997) noted that it is grey, rough and peeling in thick flakes. Immature branchlets are conspicuously marked by white lenticels (Coates Palgrave 2002).PHYTOCHEMICAL/PHYSICAL PROPERTIES The seeds contain the liminoid ekebergin, yet no liminoids were found in the bark or timber (Taylor 1981 cited in Van Wyk *et al.* 1997). Bark contains 7.23% tannin (Venter and Venter 1996), a methyl ester of atraric acid, sitosterol, lupeol, oleanolic acid and 3-epioleanolic acid (Mulholland 1996). Methanolic extracts exhibited *in vitro* antibacterial activity against *Staphylococcus aureus*, *S. epidermidis* and *Bacillus subtilis* (Rabe and Van Staden 1997). George *et al.* (2001) nominated *E. capensis* as a potentially commercial source of ekebergin for vermifuge and emetic drugs.USE IN KWAZULU-NATAL Used traditionally to protect chiefs against witchcraft, and used in love charm emetics (Gerstner 1941 cited in Hutchings *et al.* 1996). It is chopped, simmered in up to 2 litres water, and the decoction taken as an emetic for heartburn, respiratory complaints and coughs (Bryant 1966 cited in Hutchings *et al.* 1996). Poultices prepared with ground bark, flour and water are applied to boils; hot water infusions are used as a wash to treat pimples, or as emetics to purify the blood (Pujol 1990 cited in Hutchings *et al.* 1996). The bark of a tree known as umnyamathi, possibly *E. capensis*, is used for listlessness, exhaustion and to ward off evil (Hutchings *et al.* 1996).USE IN SOUTHERN AFRICA In parts of southern Africa, it is used as an emetic, to treat dysentery, and relieve heartburn (Watt and Breyer-Brandwijk 1962, Pujol 1990 cited in Van Wyk *et al.* 1997). Powdered bark infusions may be made into a paste with flour, and applied topically to abscesses, boils and acne (Pujol 1990 cited in Van Wyk *et al.* 1997). Equal amounts of powdered bark and roots may be infused and this taken (5ml in 125ml water) 30 minutes before meals, to treat gastritis (Pujol 1990 cited in Van Wyk *et al.* 1997).

CONSERVATION It is of indeterminate conservation status in KwaZulu-Natal (Cunningham 1988). It was ranked among the most

frequently demanded medicinal species in KwaZulu-Natal (Mander 1998).

**ADDITIONAL** Leaves closely resemble those of *Harpephyllum caffrum*, but *E. capensis* is distinguishable by hanging leaves, leaf scars on stems, and plum-like fruit (Palmer and Pitman 1973, Pooley 1993). The bark of *E. capensis* is frequently confused with that of *Harpephyllum caffrum* (Ndlovu 2001 pers. comm.), but may be identified by longitudinal markings on the bark (Grant and Thomas 1998).

#### *Elaeodendron croceum*

**FAMILY** Celastraceae

**AUTHORITY** (Thunb.) DC.

**SYNONYMS** *Cassine crocea* (Thunb.) Kuntze, *C. papillosa* (Hochst.) Kuntze, *Crocoxylum croceum* (Thunb.) N. Robson., *Elaeodendron capense* Eckl. & Zeyh.

**ENGLISH/AFRIKAANS** common saffron (E), common saffronwood (E), saffron-red cassine (E), gewone saffraan (A)

**ZULU** ikhukhuze, isinama, isithundu, isithuntu, umaqunda, umbhonsi, umbomvane, usehlulamanye

**DESCRIPTION** Grey, smooth, and very thin, with bright orange inner bark showing through in patches; and noticeably marked by black lenticels; very bitter (Coates Palgrave 2002). Harvested bark is readily identified by the presence of calcium oxalate crystals, visible in the broken cross-section of dried material (Cunningham 2001).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** The bark of *E. croceum*, like *E. transvaalensis*, is tannin-rich, which accounts for antidiarrhoeal properties (Bruneton 1995, Van Wyk *et al.* 1997). The phenolic elaeocyanidin, gallotannins, and ouratea proanthocyanidin A have been elucidated from the bark (Van Wyk *et al.* 1997). It contains high concentrations of calcium oxalate crystals (Cunningham 2001).

**USE IN KWAZULU-NATAL** Used in remedies to clean the digestive tract, and relieve chest congestion (Pujol 1990).

**CONSERVATION** Cunningham (1988) classed *E. croceum* as declining. It was identified by rural herbalists as among 15 species becoming increasingly scarce in KwaZulu-Natal (Cunningham 1988). It was ranked twelfth among the most frequently demanded medicinal species in KwaZulu-Natal (Mander 1998). It is heavily exploited for bark products (McKean 2001 pers. comm.) but cop-pices well (Muir 1990).

#### *Elaeodendron transvaalensis*

**FAMILY** Celastraceae

**AUTHORITY** (Burt Davy) R.H.Archer

**SYNONYMS** *Cassine transvaalensis* (Burt Davy) Codd, *Crocoxylum transvaalense* (Burt Davy) N.Robson, *Pseudocassine transvaalensis* (Burt Davy) Bredell

**ENGLISH/AFRIKAANS** bushveld saffron (E), three-petalled cassine (E), Transvaal saffron (E), Transvaal saffronwood (E), bosveld saffraan (A), lepelhout (A), oupitjie (A), Transvaal-saffraan (A)

**ZULU** ingwavuma (male), inqotha, umgududo (female), umgugudo, umqotha

**DESCRIPTION** Characteristically pale grey, smooth, and may be finely fissured (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** It is reputedly toxic (Van Wyk *et al.* 1997). Aqueous extracts caused congestion and tanning of the abdominal wall, and cardiac arrest, in the frog species *Xenopus laevis* (Frost 1941 cited in Hutchings *et al.* 1996). Frost (1941 cited in Hutchings *et al.* 1996) identified 13.4% catechol tannin, phytosterols, phlobaphenes, resins and brown colouring matter in the bark. Its therapeutic properties are attributed to high tannin content: tannins show antidiarrhoeal and astringent properties (Bruneton 1995, Van Wyk *et al.* 1997). Polar extracts inhibited *Bacillus subtilis* and *Staphylococcus aureus in vitro* (McGaw *et al.* 2000). Drewes *et al.* (1991 cited in Hutchings *et al.* 1996) isolated

dimethyl-1,3,8,10-tetrahydroxy-9-methoxypeltogynan and pentacyclic triterpenoids; the phenolic elaeocyanidin has also been isolated (Van Wyk *et al.* 1997).

**USE IN KWAZULU-NATAL** Infusions are administered orally or by enema as emetics for stomach-ache and fevers (Gerstner 1939 cited in Hutchings *et al.* 1996). This remedy is highly regarded (Palmer and Pitman 1972). Decoctions of approximately 5ml powdered bark in 250ml water are taken no more than twice daily for diarrhoea and intestinal cramps, or the powder licked directly from the hand and washed down with water (Pujol 1990 cited in Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** Elsewhere in southern Africa, it is used as an anthelmintic, and to treat haemorrhoids, venereal diseases, stomach and renal complaints (Mabogo 1990 cited in Hutchings *et al.* 1996). Bark infusions are used to relieve body pains, stomach-ache, cramps, fever, diarrhoea, heavy menstruation, skin rashes and skin infections (Van Wyk and Gericke 2000).

**CONSERVATION** It was noted by Gerstner in 1938 as heavily exploited (Cunningham 1988). *E. transvaalensis* was identified by both rural and urban herbalists as one of 15 species becoming increasingly rare in KwaZulu-Natal, and was classed as declining (Cunningham 1988). It was ranked twelfth among the most frequently demanded medicinal species in KwaZulu-Natal (Mander 1998). It is heavily exploited for bark products in KwaZulu-Natal (McKean 2001 pers. comm.). Cunningham (1988) reported that a 50kg-sized bag of bark cost R15 from gatherers at Isipingo medicinal plant market, KwaZulu-Natal.

#### *Elaeodendron zeyheri*

**FAMILY** Celastraceae

**AUTHORITY** Turcz.

**SYNONYMS** Previously incorrectly referred to as *Cassine crocea* (Thunb.) Kuntze

**ENGLISH/AFRIKAANS** red saffron (E), red saffronwood (E), saffron wood (E), small-leaved saffron (E), fynblaar-saffraan (A), geelhout (A), geelhoutboom (A), kleinblaar-saffraan (A), opregtesaffraanhout (A), rooisaffraan (A)

**ZULU** umaqunda, umbomvane

**DESCRIPTION** Variable shades of yellow-white, smooth but typically with red markings and encrustations (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Contains tannins (Watt and Breyer-Brandwijk 1962).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Pooley 1993).

**USE IN SOUTHERN AFRICA** Decoctions of the outer bark were traditionally used in snakebite remedies (Coates Palgrave 2002).

**CONSERVATION** Not threatened in KwaZulu-Natal (Hilton-Taylor 1996).

#### *Erythrina latissima*

**FAMILY** Fabaceae — Papilionaceae

**AUTHORITY** E.Mey.

**SYNONYMS** *Erythrina gibbosae* Baker. f., *E. sandersonii* Harv., *E. tomentosa* non E. Br.

**ENGLISH/AFRIKAANS** broad-leaved coral tree (E), large-leaved coral tree (E), cork tree (E), breëblaar-koraalboom (A), grootblaar (A), kurkboom (A)

**ZULU** umgqwabagqwaba, umqonqazi

**DESCRIPTION** Grey, slightly corky with spines on immature branches, becoming thickly corky and grooved with thorns (Venter and Venter 1996, Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Likely to contain so-called *Erythrina* alkaloids characteristic of the genus (Van Wyk *et al.* 1997). These are tetracyclic isoquinone alkaloids, which are highly toxic (Bruneton 1995), but may be responsible for varied pharmacological activity of extracts (Hutchings *et al.* 1996, Van Wyk *et al.* 1997). Ethanol and ethyl acetate extracts exhibited high cyclooxy-

genase-inhibitory activity *in vitro*, and antibacterial activity against *Staphylococcus aureus* and *Micrococcus luteus* (Pillay *et al.* 2001).

**USE IN KWAZULU-NATAL** Used as a purgative (Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** Bark is burned and powdered as a topical dressing for open sores (Venter and Venter 1996).

### *Erythrina lysistemon*

**FAMILY** Fabaceae — Papilionaceae

**AUTHORITY** Hutch.

**SYNONYMS** *Erythrina caffra* Thunb. var. *mossambicensis* Baker.f.

**ENGLISH/AFRIKAANS** common coral tree (E), coral tree (E), lucky bean tree (E), gewone koraalboom (A), kanniedood (A), koraalboom (A), Transvaal kafferboom (A)

**ZULU** umsinsi, umsi

**DESCRIPTION** Various shades of grey to grey-brown, smooth but with longitudinal grooves; not corky; immature branches green-grey and smooth (Venter and Venter 1996, Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** So-called *Erythrina* alkaloids in the genus are highly toxic (Van Wyk and Gericke 2000). These are tetracyclic isoquinoline alkaloids, such as erysovine and erythraline, which are also found in *E. lysistemon* (Games *et al.* 1974 cited in Van Wyk *et al.* 1997). Many pharmacological activities have been reported for the genus (Hutchings *et al.* 1996, Van Wyk *et al.* 1997). Ethanol and ethyl acetate extracts exhibited high cyclooxygenase-inhibitory activity *in vitro* and antibacterial activity against *Staphylococcus aureus* and *Micrococcus luteus* (Pillay *et al.* 2001). An isoflavone was identified as the antibacterial principle (Pillay *et al.* 2001). Agglutination bioassays yielded negative results (Gaidamashvili and Van Staden 2002).

**USE IN KWAZULU-NATAL** Used in poultices applied to swellings and abscesses (Pujol 1990 cited in Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** *E. lysistemon* is highly respected in South Africa (Roberts 1990). In other regions of this country, bark is soaked and the water used for a chief to wash, thereby ensuring the respect of his people (Coates Palgrave 2002). Some tribes in South Africa use strips from all four sides of the trunk to bind wild herbs together; these are used in a tea to relieve labour pains (Roberts 1990). Roberts (1990) noted that strips of bark from the branches are removed of thorns, and bound around tool handles to impart strength and soothe the sore hands (Roberts 1990). The primary purposes for which the barks of *E. lysistemon* and *E. caffra* Thunb. are used are topical application to sores, wounds (open wounds may be dressed with powdered, burnt bark), abscesses and arthritic joints (Van Wyk *et al.* 1997). It is used in Venda to treat toothache (Van Wyk and Gericke 2000).

### *Erythrophleum lasianthum*

**FAMILY** Fabaceae — Caesalpinaceae

**AUTHORITY** Corbisley

**SYNONYMS** *Erythrophleum guineense* G. Don var. *swaziense* Burt Davy, *E. suaveolens* sensu Compton, *E. suaveolens* non (Guill. & Perr.) Brenan

**ENGLISH/AFRIKAANS** Maputaland ordeal tree (E), ordeal tree (E), red water tree (E), sasswood (E), Swazi ordeal tree (E), Maputaland-oordeelboom (A), rooihout (A), Swazi-oordeelboom (A)

**ZULU** umbhemise, umhlakazane, umkhangu, umkhwangu, umkwangu

**DESCRIPTION** Greyish-brown and rough (Van Wyk *et al.* 1997).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** The bark and seeds contain toxic cardiac alkaloids (Watt and Breyer-Brandwijk 1962), and many diterpenoid alkaloids have been isolated from other members of the genus (Verotta *et al.* 1995 cited in Van Wyk *et al.* 1997). Cassaine and erythrophleine are noted among these, and show cardiotoxic, analgesic and vasoconstrictor effects (Bruneton 1995, Verotta *et al.* 1995 cited in Van Wyk *et al.* 1997, Hutchings *et al.* 1996). Furthermore, erythrophleine causes tissue dehydration, and

has shown uterine stimulation, anaesthetic and haemolytic activity in rabbits (Hutchings *et al.* 1996). Stembark has anti-inflammatory properties (McGaw *et al.* 1997).

**USE IN KWAZULU-NATAL** Powdered bark is frequently snuffed ('mbhemiso') for headaches, migraines (Watt and Breyer-Brandwijk 1962, Hutchings *et al.* 1996), to rid the patient of hallucinations and spells (Palmer and Pitman 1973), and less commonly hysteria (Hutchings *et al.* 1996). The snuff is sometimes mixed with the powdered bark of *Warburgia salutaris* (Gerstner 1939 and Pujol 1990 cited in Hutchings *et al.* 1996). Bark is used as both an agent, and antidote, of sorcery (Gerstner 1939 cited in Hutchings *et al.* 1996). It is taken internally for abdominal pains, used as a potent purgative, and sometimes as a poison (Watt and Breyer-Brandwijk 1962). Infusions of ground bark are used as emetics and enemas (Palmer and Pitman 1973). Powdered bark is administered in limited doses (approximately 11ml) against internal spasms (Pujol 1990 cited in Hutchings *et al.* 1996). It is used in ethnoveterinary medicine as a remedy for bovine lung sickness (Hutchings *et al.* 1996) and to cure abortion in dogs (Watt and Breyer-Brandwijk 1962). The seed of *E. lasianthum* may be substituted for the bark, but is reputedly more toxic (Watt and Breyer-Brandwijk 1962).

**USE IN SOUTHERN AFRICA** Members of the genus have been widely used throughout Africa as ordeal poisons (Watt and Breyer-Brandwijk 1962). Powdered bark is snuffed to relieve headache, colds and lung sickness in cattle (Palmer and Pitman 1973).

**CONSERVATION** Gerstner noted in 1938 that it was heavily exploited (Cunningham 1988). It was nominated by both urban and rural herbalists as one of 15 increasingly scarce medicinal species in KwaZulu-Natal, and is declining in this province (Cunningham 1988). A 50kg-sized bag of bark cost R25 from gatherers at Isipingo medicinal plant market, KwaZulu-Natal (Cunningham 1988).

### *Eucalyptus* sp.\*

**FAMILY** Myrtaceae

**AUTHORITY** L' Hér.

**ENGLISH/AFRIKAANS** gum tree (E)

**ZULU** impiskayihlangulwa, umdlavusa, umdlebe

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** *Eucalyptus* oil is toxic if taken in large doses (Watt and Breyer-Brandwijk 1962). See Trease and Evans (1983).

**USE IN KWAZULU-NATAL** The barks of unidentified *Eucalyptus*, known as umdlebe and umdlavusa, are used in Zulu traditional medicine; the latter is used for dysentery (Doke and Vilakazi 1972 cited in Hutchings *et al.* 1996), and another in a facewash for acne (Hutchings *et al.* 1996).

**CONSERVATION** The genus originates in Australia and seven species are declared invaders (category 2) (Henderson 2001).

### *Euclea crispa*

**FAMILY** Ebenaceae

**AUTHORITY** (Thunb.) Guerke

**SSP TAXON** ssp. *crispa*

**SYNONYMS** *Euclea lanceolata* E.Mey. ex A.DC.

**ENGLISH/AFRIKANS** blue guarri (E), blue-leaved euclea (E), bush guarri (E), blou-ghwarrie (A), bos-ghwarrie (A), ghwarriebos (A)

**ZULU** udingamuzi, idungamuzi, isizimande, umgwali, umnqandane, umshekisane (female plant)

**DESCRIPTION** Grey, smooth or roughened in large specimens, and may be briefly rust-toned in immature parts, due to brown granules on the bark (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Naphthoquinones are typical of the Ebenaceae (Trease and Evans 1983).

**USE IN KWAZULU-NATAL** Pieces of rootbark measuring approximately 150mm in length are infused or simmered gently in warm water, diluted further, and administered as an enema to treat stomach disorders; the preparation cannot be taken orally as it is too potently cathartic (Bryant 1966 cited in Hutchings *et al.* 1996).

**CONSERVATION** Shackleton (2000) found no relationship between coppice production and the height at which trees were felled, although stump surface area influenced coppice production.

***Euclea natalensis***

**FAMILY** Ebenaceae

**AUTHORITY** A.DC.

**SYNONYMS** *Euclea multiflora* Hiern, *E. natalensis* A.DC. ssp. *acutifolia* F.White, *E. natalensis* A.DC. ssp. *angustifolia* F.White, *E. natalensis* A.DC. ssp. *magutensis* F.White, *E. natalensis* A.DC. ssp. *obovata* F.White, *Royena macrophylla* E.Mey. ex A.DC.,

**ENGLISH/AFRIKAANS** hairy guarri (E), large-leaved euclea (E), large-leaved guarri (E), Natal ebony (E), Natal guarri (E), berg-ghwarrie (A), harige ghwarrie (A), Natal-ghwarrie (A), swartbasboom (A)

**ZULU** citha, cithamuzi, ichithamuzi (root), idungamuzi (root), ilizimane, inkunzane (root), inkunzi-emnyama (root), isinzimane (root), isizimane, umhlananyamazane, umshekisane, umtshikisane, umzimane

**DESCRIPTION** Grey to dark grey, smooth to cracking and rough (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** The genus is known to contain naphthoquinones, and members are chemically similar to *Diospyros* and related species (Trease and Evans 1983, Van Wyk and Gericke 2000). Accordingly, their use as sources of dye and toothbrush sticks can be linked to the presence of diospyron, 7-methyljugone and several other quinones (Van Wyk and Gericke 2000). Rootbark is potently cathartic (Hutchings *et al.* 1996). Extracts exhibited activity against schistosomula worms, causative of schistosomiasis (Sparg *et al.* 2000).

**USE IN KWAZULU-NATAL** The rootbark is employed in decoctions against scrofulous swellings (Bryant 1966 cited in Hutchings *et al.* 1996). It is also used in a mixture, known as 'imbhiza', containing roots of *Polygala fruticosa* Berg., possibly *Raphionacme* sp., bulbous roots of *Crinum* sp., and *Cyrtanthus obliquus* Ait., and the rootbarks of *Zanthoxylum capense*, *Capparis tomentosa* Lam. and *Rauvolfia caffra*. The ingredients are chopped and pounded, mixed and boiled briefly; the patient crouches over the steaming preparation until glandular swellings or tumours are drawn. Thereafter, the medicine is taken in 11ml doses twice daily to purify the blood (Hutchings *et al.* 1996). The ashes of burnt, powdered bark are made into an ointment with crocodile fat or petroleum jelly for the treatment of abnormal growths (Hutchings *et al.* 1996). *E. natalensis* may be substituted for *E. crispa* in medicines for stomach disorders (Hutchings *et al.* 1996). The bark of idungamuzi, possibly *E. natalensis*, is an ingredient in preparations to treat urinary tract infections, venereal disease and susceptibility to sores (Hutchings *et al.* 1996). For schistosomiasis, bark is boiled, cooled and strained, and 10ml taken three times daily (Hutchings *et al.* 1996). Infusions are used as protective war charms (Hutchings *et al.* 1996). **USE IN SOUTHERN AFRICA** In southern Africa, the rootbark is moistened and applied to the lips as a yellow-brown cosmetic (Van Wyk and Gericke 2000). In Kaokoland, bark is chewed as a mouthwash (Van Wyk and Gericke 2000).

**CONSERVATION** Coppice production may be manipulated by the cutting height at which trees are felled, although stump surface area may not strongly influence shooting (Shackleton 2000).

***Euclea schimperi***

**FAMILY** Ebenaceae

**AUTHORITY** (A.DC.) Dandy

**SSP TAXON** var. *daphnoides* (Hiern) De Winter

**SYNONYMS** *Euclea daphnoides* Hiern, *E. racemosa* Murray ssp. *daphnoides* (Hiern) F.White, *E. racemosa* Murray ssp. *zuluensis* F.White

**ENGLISH/AFRIKAANS** bush guarri (E), white-stemmed guarri (E),

bosghwarrie (A), witstam (A), witstam-ghwarrie (A)

**ZULU** amacafuthane, citha, cithamuzi, ichithamuzi, idungamuzi

**DESCRIPTION** Grey to almost black and smooth but with very fine vertical fissures (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Naphthoquinones are typical of the Ebenaceae (Trease and Evans 1983).

**USE IN KWAZULU-NATAL** Used as a purgative (Doke and Vilakazi 1972 cited in Hutchings *et al.* 1996).

***Euclea* sp.**

**FAMILY** Ebenaceae

**AUTHORITY** Murray

**ZULU** inkunzi enyama, usahlulamanye

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Naphthoquinones are typical of the Ebenaceae (Trease and Evans 1983).

**USE IN KWAZULU-NATAL** Infusions are taken as emetics for chest diseases (Watt and Breyer-Brandwijk 1962).

***Euclea undulata***

**FAMILY** Ebenaceae

**AUTHORITY** Thunb.

**SYNONYMS** *Euclea myrtina* Burch.

**ENGLISH/AFRIKAANS** common guarri (E), guarri (E), thicket euclea (E), gewone ghwarrie (A), ghwarriebos (A)

**ZULU** gwanze, inkunzane, umbophanyamazane, umshekisane, umtshikizane

**DESCRIPTION** Grey and scaly; younger parts may be covered with a granular rust-coloured exudate from glands on the leaves and branches (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Naphthoquinones are typical of the Ebenaceae (Trease and Evans 1983). Bark contains 3.26% tannin (Watt and Breyer-Brandwijk 1962).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** Used by the Sotho to relieve headaches: powdered bark is applied to a strip of *Dombeya rotundifolia* leaf and the head bandaged (Watt and Breyer-Brandwijk 1962). Infusions of the rootbark are potent purgatives (Watt and Breyer-Brandwijk 1962).

**ADDITIONAL INFORMATION** Two varieties have been described: *E. undulata* Thunb. ssp. *undulata* (common guarri), and *E. undulata* Thunb. var. *myrtina* (Burch.) Hiern (small-leaved guarri) (Von Breitenbach 1986 cited in Van Wyk *et al.* 1997).

***Euphorbia ingens***

**FAMILY** Euphorbiaceae

**AUTHORITY** E.Mey. ex Boiss.

**SYNONYMS** *Euphorbia natalensis* sensu Berg. non Bernh., *E. similis* Berg.

**ENGLISH/AFRIKAANS** cactus euphorbia (E), candelabra tree (E), common tree euphorbia (E), naboom (E), gewone melkboom (A), gewone naboom (A), kankerbos (A), naboom (A), noorsboom (A), noorsdoring (A)

**ZULU** umahetheni, umhlonhlo, umphapha

**DESCRIPTION** Grey, becoming rough with maturity (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** The latex is toxic: contact results in acute irritation and blistering of the skin, and, should it come into contact with the eyes, results in short-term or permanent blindness; reports suggest similar reactions in cattle (Coates Palgrave 2002). Use as a fish poison further confirms its toxicity (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** The Vhavenda people in South Africa use it to treat chronic ulcers and cancer (Mabogo 1990 cited in Hutchings *et al.* 1996). Despite its well-known toxicity, the latex is

administered in small doses as a purgative, and to treat dysomania and cancer (Coates Palgrave 2002). Symptoms of over-dose include vomiting and violent abdominal pain (Coates Palgrave 2002).

#### *Faidherbia albida*

**FAMILY** Fabaceae — Mimosaceae

**AUTHORITY** (Delile) A.Chev.

**SYNONYMS** *Acacia albida* Delile

**ENGLISH/AFRIKAANS** ana tree (E), white monkey thorn (E), ana-boom (A), apiesdoring (A), bruin-opiesdoring (A), wit-opiesdoring (A), withoutdoring (A)

**ZULU** umhlalankwazi, umkhaya-wemfula

**DESCRIPTION** Green-grey to pale grey and smooth, becoming increasingly dark and rough with maturity (Venter and Venter 1996).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Pooley 1993).

**USE IN SOUTHERN AFRICA** Decoctions may be used to stop bleeding, relieve inflamed eyes, or as an emetic taken orally (Venter and Venter 1996). The Topnaar people of Namibia use strips of bark as dental floss (Van Wyk and Gericke 2000). Decoctions are used in unspecified regions to treat diarrhoea (Van Wyk and Gericke 2000).

**CONSERVATION** In Namibia it is of lower risk (Craven and Loots 2002).

#### *Faurea macnaughtonii*

**FAMILY** Proteaceae

**AUTHORITY** E.Phillips

**SYNONYMS** *Faurea natalensis* E.Phillips

**ENGLISH/AFRIKAANS** terblans (E), terblanz (E), Egossa beech (E), terblanz beech (E), bosboekenhout (A), Egossa-beuke (A), rooiboekenhout (A), terblans (A), terblanz (A), terblanshout (A)

**ZULU** isefo, isefu, isiqalaba, isisefo

**DESCRIPTION** Thick, grey and longitudinally fissured (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** The bark is apparently non-toxic: a non-toxic glucoside, tannin and organic acids have been isolated (Watt and Breyer-Brandwijk 1962).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** The Mpondo use it as a homicidal poisoning (Watt and Breyer-Brandwijk 1962).

**CONSERVATION** Cunningham (1988) classed it as vulnerable and declining in KwaZulu-Natal, and Scott-Shaw (1999) as lower risk, but protected. The species is extremely sensitive to bark removal (Cunningham 1991), and bark wounds are highly susceptible to fungal infection (Cunningham 2001). Coppice production is poor (Cunningham 1991).

#### *Faurea saligna*

**FAMILY** Proteaceae

**AUTHORITY** Harv.

**SYNONYMS** *Protea blousii* E.Phillips, *P. multibracteata* E.Phillips, *P. rhodantha* Hook.f.

**ENGLISH/AFRIKAANS** African beech (E), African red beech (E), beechwood (E), boekenhout (E), bushveld beech (E), red beech (E), Transvaal beech (E), boekenhout (A), bosveld-boekenhout (A), rooiboekenhout (A), Transvaalboekenhout (A)

**ZULU** isiqalaba, isisefo, umcalathole

**DESCRIPTION** Dark grey-brown to black, rough and deeply longitudinally fissured (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** In Venda, the bark is used to treat venereal diseases and schistosomiasis (Hutchings *et al.* 1996).

**CONSERVATION** It is of indeterminate conservation status in KwaZulu-Natal (Cunningham 1988).

#### *Ficus ingens*

**FAMILY** Moraceae

**AUTHORITY** (Miq.) Miq.

**SSP TAXON** var. *ingens*

**SYNONYMS** *Ficus caffra* (Miq.) Miq., *F. ingens* (Miq.) Miq., *F. ingens* Miq. var. *tomentosa* Hutch., *F. pondoensis* Warb.

**ENGLISH/AFRIKAANS** red-leaved fig (E), red-leaved rock fig (E), red leaf wild fig (E), wild fig (A), rooiblaar-rotsvy (A), rooiblaarvy (A), wildevyboom (A)

**ZULU** inkokhokho, isigondwane, umdende, umdenda obomvu, umdende-obomvu, umgongswane

**DESCRIPTION** Grey to yellow-grey and smooth (Coates Palgrave 2002), peeling in small, thin flakes (Venter and Venter 1996).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Contains tannins (Watt and Breyer-Brandwijk 1962).

**USE IN KWAZULU-NATAL** Decoctions are used to treat anaemia, and as an ethnoveterinary galactagogue for cows (Watt and Breyer-Brandwijk 1962).

**USE IN SOUTHERN AFRICA** The Vhavenda use the bark in the same way as the Zulu (Mabogo 1990 cited in Hutchings *et al.* 1996). The milky latex is used as a disinfectant (Venter and Venter 1996).

**CONSERVATION** Latex-producing *Ficus* spp. are resilient to harvesting pressure, may exhibit regrowth after complete bark removal (Cunningham and Mbenkum 1993) and coppice well (Muir 1990).

#### *Ficus natalensis*

**FAMILY** Moraceae

**AUTHORITY** Hochst.

**SSP TAXON** ssp. *natalensis*

**SYNONYMS** *Ficus durbanii* Warb.

**ENGLISH/AFRIKAANS** common wild fig (E), Natal fig (E), rock-splitting fig (E), tree-killer (E), wild fig (E), bostouboom (A), gewone wildevy (A), Natal vy (A), natou (A), t'kaa (A)

**ZULU** idende, isihlamfane, uluzi, umbombe, umdende, umthombe

**DESCRIPTION** Grey and smooth (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** It is an ingredient in 'inembe', an infusion taken regularly during pregnancy to ease childbirth (Gerstner 1941 cited in Hutchings *et al.* 1996).

**CONSERVATION** Latex producing *Ficus* spp. are resilient to harvesting pressure, may exhibit regrowth after complete bark removal (Cunningham and Mbenkum 1993) and coppice well (Muir 1990).

#### *Ficus* sp. cf. *abutilifolia*

**FAMILY** Moraceae

**AUTHORITY** (Miq.) Miq.

**SYNONYMS** *Ficus picta* Sim, *F. soldanella* Warb.

**ENGLISH/AFRIKAANS** large-leafed rock fig (E), rock fig (E), rock wild fig (E), tree-killer (E), grootblaar-rotsvy (A), klip-vy (A), rankvy (A), rotsvy (A)

**ZULU** impayi, inkokhokho, ubambematsheni, umluga

**DESCRIPTION** Cream-coloured to pale yellow, smooth; milky latex exuded when cut (Schmidt *et al.* 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** See Trease and Evans (1983).

**USE IN KWAZULU-NATAL** Decoctions are taken by men as a strengthening tonic (Watt and Breyer-Brandwijk 1962).

**CONSERVATION** Latex producing *Ficus* spp. are resilient to harvesting pressure, may exhibit regrowth after complete bark removal (Cunningham and Mbenkum 1993) and coppice well (Muir 1990).

#### *Ficus sur*

**FAMILY** Moraceae

**AUTHORITY** Forssk.

**SYNONYMS** *Ficus capensis* Thunb., *F. mallotocarpa* Warb., *F. thonningiana* Miq., *Sycamorus capensis* (Thunb.) Miq.

**ENGLISH/AFRIKAANS** broom cluster fig (E), bush fig (E), Cape fig



(E), Cape wild fig (E), besem-trosvy (A), bosvy (A), grootvy (A), koeman (A), komaan (A), koomaan (A), suurvy (A)

**ZULU** ingobozweni, intombi-kayibhinci, umkhiwane

**DESCRIPTION** Smooth and pale grey (Venter and Venter 1996).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** *F. sur* reportedly contains 0.18% rubber latex (Watt and Breyer-Brandwijk 1962). The bark contains resin and tannins (Hutchings *et al.* 1996).

**USE IN KWAZULU-NATAL** Decoctions are used to treat suspected pulmonary tuberculosis (Watt and Breyer-Brandwijk 1962). Infusions are used as galactogogues for cows (Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** In various regions of southern Africa, infusions are taken as galactogogues, and to relieve constipation in both humans and animals (Van Wyk and Gericke 2000). Powdered bark is applied topically to treat skin rashes (Van Wyk and Gericke 2000).

**CONSERVATION** Latex producing *Ficus* spp. are resilient to harvesting pressure, may exhibit regrowth after complete bark removal (Cunningham and Mbenkum 1993), and coppice well (Muir 1990).

#### *Flueggea virosa*

**FAMILY** Euphorbiaceae

**AUTHORITY** (Roxb. ex Willd.) Voigt.

**SYNONYMS** *Flueggea microcarpa* Blume, *Securinea abyssinica* A.Rich., *S. microcarpa* (Blume) Müll.Arg., *S. obovata* (Willd.) Müll.Arg., *S. virosa* (Roxb. ex Willd.) Baill.

**ENGLISH/AFRIKAANS** snowberry tree (E), white-berry bush (E), witbessiebos (A)

**ZULU** isibangamhlota sehlati, umyaweyane

**DESCRIPTION** Red-brown to brown (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Contains tannin, and is therefore an effective treatment for diarrhoea and pneumonia (Coates Palgrave 2002). Alkaloids have been elucidated in unspecified plant parts (Glasby 1991).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** Used in medicines for diarrhoea, pneumonia and malaria (Hutchings *et al.* 1996).

#### *Garcinia gerrardii*

**FAMILY** Clusiaceae

**AUTHORITY** Harv. ex. Sim

**SYNONYMS** *Garcinia natalensis* Schltr., *G. transvaalensis* Burt Davy

**ENGLISH/AFRIKAANS** forest garcinia (E), forest mangosteen (E), wild gamboge tree (E), wild mangosteen (E), bos-geelmelkhout (A), ebbehout (A), geel-gombboom (A), wilde-mangostan (A)

**ZULU** isibinda, isikhwelamfene, umbinda

**DESCRIPTION** Dark grey to brown, sometimes vertically ridged (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Contains 11.3% tannins (Watt and Breyer-Brandwijk 1962). Rootbark has shown antifungal activity against *Cladosporium cucumerinum*, and the active principle identified as a prenylated xanthone (Hutchings *et al.* 1996).

**USE IN KWAZULU-NATAL** Used in sprinkling charms against lightning (Pujol 1990).

**CONSERVATION** *G. gerrardii* is declining in KwaZulu-Natal (Cunningham 1988). A 50kg-sized bag of bark cost R10 from gatherers at Isipingo medicinal plant market, KwaZulu-Natal (Cunningham 1988).

#### *Garcinia livingstonei*

**FAMILY** Clusiaceae

**AUTHORITY** T.Anderson

**SYNONYMS** *Garcinia angolensis* Vesque

**ENGLISH/AFRIKAANS** African mangosteen (E), Livingstone's garcinia (E), Lowveld mangosteen (E), Afrika-geelmelkhout (A),

Laeveld geelmelkhout (A), Laeveldse geelmelkhout (A)

**ZULU** isihlumanye, ugobandlovu, umphimbi

**DESCRIPTION** Yellow-grey to dark grey or black, rough and cracked in squares; bark on immature branches is smooth and glossy (Venter and Venter 1996, Coates Palgrave 2002). All parts exude sticky, pale yellow sap (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Rootbark has shown antifungal activity against *Cladosporium cucumerinum*, and inhibition of human colon carcinoma cell lines; these properties are attributable to prenylated xanthenes (Hutchings *et al.* 1996).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Cunningham 1988).

#### *Gardenia thunbergia*

**FAMILY** Rubiaceae

**AUTHORITY** Thunb.

**SYNONYMS** *Gardenia speciosa* Salisb, *G. verticillata* Lam.

**ENGLISH/AFRIKAANS** white gardenia (E), forest gardenia (E), starry gardenia (E), bos-katjeepering (A), buffelsbal (A), kan-netjiebering (A), stompdoring (A), swartbas (A), wildekattjeepering (A), wit-kattjeepering (A)

**ZULU** umkangaze (root), umkhangazo (root), umkhwakhwane, umkwakwane omkhulu, umvalasangweni, umvalasangweni-wehlathi

**DESCRIPTION** Pale grey and smooth (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Rootbark infusions are used as emetics for biliousness (Watt and Breyer-Brandwijk 1962).

**CONSERVATION** It is readily cultivated from seed or truncheons (Pooley 1993), and is slow growing but hardy (Coates Palgrave 2002). In Swaziland it is critically endangered, threatened primarily by deforestation (Dlamini and Dlamini 2002).

#### *Gerrardina foliosa*

**FAMILY** Flacourtiaceae

**AUTHORITY** Oliv.

**ENGLISH/AFRIKAANS** krantz berry (E), kransbessie (A)

**ZULU** ilethi, isidlulamanye, umaluleka, umlulama, umlulama womfula, umuthi wokuzila

**DESCRIPTION** Dark grey to brown and rough (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Rootbark is used to treat coughs, colds and headaches (Gerstner 1939 cited in Hutchings *et al.* 1996).

**CONSERVATION** Rare and vulnerable in KwaZulu-Natal (Cunningham 1988).

#### *Grewia caffra*

**FAMILY** Tiliaceae

**AUTHORITY** Meisn.

**ENGLISH/AFRIKAANS** climbing raisin (E), climbing grewia (E), doringtou (A), rank-rosyntjie (A)

**ZULU** iklolo, ilalanyathi, iphata, isaka, isilandula, umlalanyate, umunyumnyu

**DESCRIPTION** Dark brown and roughly textured (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Rootbark is used for bladder ailments and in enemas (Gerstner 1939 cited in Hutchings *et al.* 1996). Pounded stembark is used in soap that is believed to prevent the hair from greying (Hulme 1954 cited in Hutchings *et al.* 1996). A dressing for wounds is made from bark that is bruised and soaked in hot water (Watt and Breyer-Brandwijk 1962).

#### *Grewia occidentalis*

**FAMILY** Tiliaceae

**AUTHORITY** L.

**SYNONYMS** *Grewia chirindae* Baker.f., *G. microphylla* Weim., *G. rudatisii* Burret

**ENGLISH/AFRIKAANS** assegai-wood (E), bow-wood (E), button wood (E), cross-berry (E), dew-berry (E), four corners (E), kruisbessie (A), assegaibos (A), assegaaihout (A), booghout (A), knop-pieshout (A), pylbos (A)

**ZULU** iklolo, ilalanyathi, imahlele, imanhlele, umlalanyathi, umnqabaza

**DESCRIPTION** Pale grey to grey-brown and smooth (Venter and Venter 1996, Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Contains tannin and mucilage or gum (Watt and Breyer-Brandwijk 1962).

**USE IN KWAZULU-NATAL** Rootbark is used to treat bladder complaints, and in infusions administered as enemas (Gerstner 1939 cited in Hutchings *et al.* 1996). Pounded bark is used in soaps to wash the head, which are believed to prevent hair from greying (Hulme 1954 cited in Hutchings *et al.* 1996). Bark is bruised and soaked in water prior to use in dressings for wounds (Watt and Breyer-Brandwijk 1962).

**ADDITIONAL INFORMATION** Von Breitenbach *et al.* (2001) referred to *G. occidentalis* L. var. *occidentalis*.

#### *Greyia sutherlandii*

**FAMILY** Greyiaceae

**AUTHORITY** Hook. & Harv.

**ENGLISH/AFRIKAANS** beacon tree (E), mountain bottlebrush (E), Natal bottlebrush (E), wild bottlebrush (E), baakhout (A), meideboom (A), Natal baakhout (A), Natalse baakhout (A)

**ZULU** indalu, indulo, isidwadwa, umbande, umbunge

**DESCRIPTION** Dark red-grey and rough on maturity, but smooth red-grey when immature (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Cunningham 1988).

#### *Gymnosporia buxifolia*

**FAMILY** Celastraceae

**AUTHORITY** (L.) Szyszyl.

**SYNONYMS** *Catha buxifolia* (L.) G.Don, *Celastrus buxifolius* L. *C. cymosus* Soland., *Gymnosporia condensata* Sprague, *Maytenus cymosa* (Soland.), *M. heterophylla* (Eckl. & Zeyh.) N.Robson

**ENGLISH/AFRIKAANS** common spike-thorn (E), spike thorn (E), gewone pendoring (A), gifdoring (A), hondobos (A), lemoendoring (A), pendoring (A), stinkblom (A), stinkblombos (A), stinkdoring (A)

**ZULU** ingqowangane, ingqwangane yehlanze, isibhubu, isibulu, isihlangu, umkhokhozo, umquqo, usala, usolo

**DESCRIPTION** Pale or dark grey with striations; corky; bark on immature branches brown, green or red-purple (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Compounds isolated include the spermidine alkaloid celacinnine and triterpenoids such as epifriedelanol, friedelin and epfriedelinol (Hutchings *et al.* 1996). It contains tannins (Watt and Breyer-Brandwijk 1962).

**USE IN KWAZULU-NATAL** Infusions are used as emetics or enemas in the treatment of diarrhoea, and for the same purpose, with the leaves, in livestock (Watt and Breyer-Brandwijk 1962).

#### *Harpephyllum caffrum*

**FAMILY** Anacardiaceae

**AUTHORITY** Bernh. ex Krauss

**SYNONYMS** *Ofina caffra* (Bernh.) Sim

**ENGLISH/AFRIKAANS** essenhout (E), wild plum (E), sour plum (E), kafferpruim (A), suurbessie (A), suurpruim (A), wilde-pruim (A)

**ZULU** umgwenya

**DESCRIPTION** Dark grey to brown, rough, resembling the skin of a crocodile (umgwenya) in mature specimens; bark on immature branches is dark grey and smooth with leaf scars (Venter and Venter 1996, Van Wyk *et al.* 1997).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Polyphenolics and

flavonoids, including protocatechuic acid and the flavonol kaempferol, have been identified (Van Wyk *et al.* 1997). Members of the Anacardiaceae are known to produce 5-deoxyflavonoids and biflavonyls (Hutchings *et al.* 1996). It contains tannins (Watt and Breyer-Brandwijk 1962) and tanniferous parenchyma produces anthocyanins, gallic acid and calcium oxalate crystals; silica may be present in the xylem, and allergenic or toxic resin is common (Hutchings *et al.* 1996). Jäger *et al.* (1996) reported anti-inflammatory activity, and McGaw *et al.* (2000) reported antibacterial activity of polar extracts against *Bacillus subtilis*, *Escherichia coli*, *Klebsiella pneumoniae* and *Staphylococcus aureus*.

**USE IN KWAZULU-NATAL** Decoctions are used as emetics and to purify the blood, and for skin complaints such as acne and eczema; oral dosage is 250–500ml daily, or greater volumes for administration by enema (Pujol 1990 cited in Hutchings *et al.* 1996). Burnt bark is powdered and rubbed into scarifications made around sprains and fractures (Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** In southern Africa, it is a popular traditional medicine and cosmetic for facial saunas (Van Wyk and Gericke 2000). Decoctions are taken for rashes seemingly contracted from river sprites (Hutchings *et al.* 1996).

**CONSERVATION** Cunningham (1988) classed it as declining in KwaZulu-Natal. It was jointly ranked eleventh of the medicinal species most frequently demanded by consumers in KwaZulu-Natal (Mander 1998).

**ADDITIONAL INFORMATION** Due to similarities in leaf morphology, it is frequently confused with *Ekebergia capensis* but may be distinguished by firm, not drooping leaves (as in *E. capensis*), sickle-shaped leaflets, less scarred bark, and elongated fruit (Palmer and Pitman 1973).

#### *Heteromorpha arborescens*

**FAMILY** Apiaceae

**AUTHORITY** (Spreng.) Cham. & Schlecht.

**SYNONYMS** *Heteromorpha trifoliata* (Wendl.) Eckl. & Zeyh., *H. arborescens* (Spreng.) Cham. & Schlecht. var. *arborescens*

**ENGLISH/AFRIKAANS** parsley tree (E), parsnip tree (E), kraaibos (A), stinkbos (A), wildepieterseliebos (A)

**ZULU** umbangabdlala

**DESCRIPTION** Red-brown to purple-brown, smooth and waxy in appearance, and typically peeling in paper-like flakes (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Milky latex exuded by the plant has shown antimicrobial activity (Desta 1993 cited in Hutchings *et al.* 1996).

**USE IN KWAZULU-NATAL** Used against colic, scrofula (Hutchings *et al.* 1996) and in ethnoveterinary medicine in an equine vermifuge (Gerstner 1938 cited in Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** In Lesotho, it is used to treat depressed fontanelles in infants (Watt and Breyer-Brandwijk 1962).

**ADDITIONAL INFORMATION** Hutchings *et al.* (1996) referred to *Heteromorpha trifoliata* (Wendl.) Eckl. & Zeyh., the synonym for *H. arborescens* (Spreng.) Cham. & Schlecht. var. *arborescens* listed by Von Breitenbach *et al.* (2001).

#### *Heteropyxis natalensis*

**FAMILY** Heteropyxidaceae

**AUTHORITY** Harv.

**ENGLISH/AFRIKAANS** lavender tree (E), lemon verbena (E), wild lavender (E), laventelboom (A), wilde-laventel (A)

**ZULU** inkhuzwa, inkunzi, uhuza, uhuze, uhuzu, umkhuswa, umkhuswe, umkhuze

**DESCRIPTION** Distinctively pale grey to pale brown, almost white and thinly flaking with maturity, resulting in a characteristic mottled appearance (Venter and Venter 1996, Van Wyk *et al.* 1997, Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Many compounds have been elucidated from the essential oil (Van Wyk *et al.* 1997).

**USE IN KWAZULU-NATAL** Powdered bark is licked off the fingers as an aphrodisiac and to cure impotence (Hutchings *et al.* 1996).

**CONSERVATION** Mander (1998) ranked *H. natalensis* thirteenth among the most frequently demanded medicinal species in KwaZulu-Natal.

#### *Homalium dentatum*

**FAMILY** Samydaceae

**AUTHORITY** (Harv.) Warb.

**SYNONYMS** *Blackwellia dentata* Harv., *Homalium chasei* Wild, *H. subsuperum* Sprague

**ENGLISH/AFRIKAANS** brown ironwood (E), bastard common homalium (E), forest homalium (E), white ironwood (E), baster-witstinkhout (A), bos-bastermoerbe (A), bruinysterhout (A), dikabseyesterhout (A)

**ZULU** idlebendlovu, idlebendlovu enkulu, umkhakhas, umkhakhasi, umqathe

**DESCRIPTION** Grey and smooth, sometimes flaking, but dark brown and conspicuously marked by pale lenticels when immature (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Powdered bark is used in colic remedies (Watt and Breyer-Brandwijk 1962).

#### *Ilex mitis*

**FAMILY** Aquifoliaceae

**AUTHORITY** (L.) Radlk.

**SSP TAXON** var. *mitis*

**SYNONYMS** *Ilex capensis* Sond.

**ENGLISH/AFRIKAANS** African holly (E), Cape holly (E), water-tree (E), wild holly (E), waterboom (A), waterhout (A), without (A)

**ZULU** iphuphuma, isidumo, umdumo, umdumowazo

**DESCRIPTION** Pale grey and smooth; purple-toned and marked by lenticels on immature branches (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** See Trease and Evans (1983).

**USE IN KWAZULU-NATAL** Infusions are used to reduce fever (Gerstner 1939 cited in Hutchings *et al.* 1996), as emetics in the treatment of diarrhoea, and for the same purpose in livestock (Watt and Breyer-Brandwijk 1962). It is pounded and the resultant lather used to wash influenza patients (Watt and Breyer-Brandwijk 1962).

**USE IN SOUTHERN AFRICA** Small pieces of bark are chewed for mild purgative effects, and in enemas to treat colic in children (Coates Palgrave 2002). Decoctions of powdered bark are taken orally as emetics; pastes made with powdered bark are applied topically to rashes and facial sores (Hutchings *et al.* 1996).

**CONSERVATION** Indeterminate conservation status in KwaZulu-Natal (Cunningham 1988).

**ADDITIONAL INFORMATION** The Zulu vernacular name used for an unidentified member of the genus is citha.

#### *Kigelia africana*

**FAMILY** Bignoniaceae

**AUTHORITY** Lam. (Benth.)

**SYNONYMS** *Kigelia pinnata* DC.

**ENGLISH/AFRIKAANS** sausage tree (E), komkommerboom (A), kalabasboom (A), worsbom (A)

**ZULU** ibele-ndlovu, ubongothi, umfongothi, umvongothi (fruits), umvunguta, umzingula, umzingulu

**DESCRIPTION** Pale to dark grey, smooth becoming rough with maturity.

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Aqueous extracts exhibited antibacterial and antifungal activity against *Candida albicans*, *Staphylococcus aureus*, *Bacillus subtilis*, *Escherichia coli* and *Pseudomonas aeruginosa*; activity was attributed to iridoids, dihydroisocoumarins and their glycosides, and naphthoquinones

(Govindachari *et al.* 1971, Inoue *et al.* 1981, Akunyili *et al.* 1991, Van Wyk *et al.* 1997). Aqueous, ethanol and ethyl acetate extracts have also shown antibacterial activity against *Klebsiella pneumoniae* (Grace *et al.* 2002b). Isolated compounds isopinnatal and lapachone are active against trypanosomes (Anon. 1993). *In vitro* activity of extracts against melanoma and renal cell carcinoma lines may justify its reputed efficacy against skin melanoma; this supports its use in South Africa for the treatment of 'skin cancer' (Houghton *et al.* 1994, Anon. 1995, Houghton 2002). Bark extracts and isolated compound lapachol have shown cytotoxicity against *Artemia salina* in the brine shrimp bioassay, indicating anti-tumour potential (Khan and Mlungwana 1999). Anticonvulsant properties may be attributable to cinnamic acid (Hutchings *et al.* 1996). Compounds elucidated include 3-dimethylkigelin, ferulic acid, kigelinone, pinnatal, isopinnatal, dihydroisocoumarins, sterols (Govindachari *et al.* 1971, Inoue *et al.* 1981, Bruneton 1995). Burkill (1985) reported tannic acid. It has a somewhat bitter taste, and is reported to contain a bitter principle (Watt and Breyer-Brandwijk 1962, Akah 1996).

**USE IN KWAZULU-NATAL** Decoctions are administered orally or by enema to adults and paediatric patients, as a stomach palliative and laxative (Hutchings *et al.* 1996, Van Wyk *et al.* 1997).

**USE IN SOUTHERN AFRICA** Decoctions are used to treat venereal diseases (Immelman *et al.* 1973, Coates Palgrave 1977, Hutchings *et al.* 1996). In Zimbabwe, decoctions are gargled to relieve pain and inflammation caused by toothache, or taken orally to prevent epileptic fits and treat pneumonia (Gelfand *et al.* 1985). Extracts are potent cures for skin melanoma in fair-skinned people (Houghton *et al.* 1994). Decoctions are administered orally as abortifacients (Hutchings *et al.* 1996).

**CONSERVATION** Considered occasional in most parts of Africa, but not threatened (Maundu *et al.* 1999). It is readily cultivated from seed or truncheons (Pooley 1993).

#### *Lannea discolor*

**FAMILY** Anacardiaceae

**AUTHORITY** (Sond.) Engl.

**SYNONYMS** *Lannea schimperii* non (Hochst.) Engl., *Odina discolor* Sond.

**ENGLISH/AFRIKAANS** live-long (E), tree grape (E), bakhout (A), boomdruif (A), dikbas (A)

**ZULU** isiganganyane

**DESCRIPTION** Grey with a copper sheen, smooth or slightly rough with longitudinal fissures (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Pooley 1993).

**USE IN SOUTHERN AFRICA** In some regions of southern Africa, it is used to treat complaints such as fever and constipation in paediatric patients (Coates Palgrave 2002). Powdered bark is administered orally to treat diarrhoea (Hutchings *et al.* 1996).

#### *Lannea schweinfurthii*

**FAMILY** Anacardiaceae

**AUTHORITY** (Engl.) Engl.

**SSP TAXON** var. *stuhlmannii* (Engl.) Kokwaro

**SYNONYMS** *Lannea kirkii* Burt Davy, *L. stuhlmannii* (Engl.) Engl., *L. stuhlmannii* (Engl.) Engl. var. *tomentosa* Dunkley

**ENGLISH/AFRIKAANS** false marula (E), mock marula (E), tree grape (E), bakhout (A), baster-maroele (A), boomdruif (A), vals-maroele (A)

**ZULU** umganukomo

**DESCRIPTION** Pale brown or grey, flaking in rectangular pieces and revealing pale orange inner bark; this produces a mottled effect (Coates Palgrave 2002). Bark on immature branches is green, pubescent and marked by conspicuous leaf scars (Venter and Venter 1996).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** The Swahili use finely powdered rootbark, blown into the nasal cavities of a snakebite victim, when the patient begins to lose consciousness (Watt and Breyer-Brandwijk 1962). The Vhavenda use rootbark decoctions mixed with a fungus found on the roots of *L. schweinfurthii* to help family members forget a recently deceased relative (Mabogo 1990 cited in Hutchings *et al.* 1996). The bark is also used to treat headaches, stomach pains, sleeping sickness, and to help people disregard unpleasant events (Hutchings *et al.* 1996).

**CONSERVATION** In Mpumalanga Province, *L. schweinfurthii* var. *stuhlmannii* is considered to be readily available and in high demand; bark products are traded for an average price of R500 kg<sup>-1</sup> (Botha *et al.* 2001).

#### *Loxostylis alata*

**FAMILY** Anacardiaceae

**AUTHORITY** Spreng.f. ex Rchb.

**ENGLISH/AFRIKAANS** Loxostylis (E), tarwood (E), tigerwood (E), wild pepper tree (E), breekhout (A), tederhout (A), teerhout (A), tierhout (A), wilde-peperboom (A)

**ZULU** ifuthu, isibara, ufutho, ufuthu

**DESCRIPTION** Pale grey, flaking, with vertical fissures (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Ginkgol and ginkgolic acid have been elucidated (Drewes *et al.* 1998).

**USE IN KWAZULU-NATAL** A commonly used medicine, particularly in childbirth (Pooley 1993).

**CONSERVATION** Vulnerable and declining in KwaZulu-Natal (Cunningham 1988).

#### *Macaranga capensis*

**FAMILY** Euphorbiaceae

**AUTHORITY** (Baill.) Benth. ex Sim

**ENGLISH/AFRIKAANS** mock poplar (E), spiny macaranga (E), swamp poplar (E), wild poplar (E), vals-populier (A), wilde-populier (A)

**ZULU** iphubane, iphumela, umbhongabhonga, umfongafonga, umfongofongo, umompumelelo, umphumela, umphumelee, umphumelele, umpumelelo

**DESCRIPTION** Pale grey to pale brown with horizontal markings, smooth (Coates Palgrave 1977).

**USE IN KWAZULU-NATAL** Used to treat skin diseases and relieve sunburn (Pujol 1990 cited in Hutchings *et al.* 1996).

**CONSERVATION** Mander (1998) ranked it among the most frequently demanded medicinal plants in KwaZulu-Natal.

**ADDITIONAL INFORMATION** Von Breitenbach *et al.* (2001) recognised only *M. capensis* (Baill.) Sim var. *capensis*.

#### *Maesa lanceolata*

**FAMILY** Myrsinaceae

**AUTHORITY** Forssk.

**SYNONYMS** *Maesa lanceolata* Gilg., *M. lanceolata* Forssk. var. *rufescens* (A.DC.) Taton, *M. rufescens* A.DC.

**ENGLISH/AFRIKAANS** false assegai (E), maesa (E), mock assegai (E), baster-assegai (A), bruinsapblaar (A), vals-assegai (A)

**ZULU** indende, isidenda (root, bark), isithende, maguqu, ubhoqobhoqo, ugupu (root, bark), uhlamvubele, umagugu (root, bark), umagupu, umaguqu, umaququ, umphongaphonga, uphongaphonga, uphophopho

**DESCRIPTION** Grey, grey-brown or red-brown, rough; immature branches smooth and may be covered with rust-coloured pubescence (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Has a sharp taste (Watt and Breyer-Brandwijk 1962).

**USE IN KWAZULU-NATAL** Rootbark is used for unspecified purposes (Cunningham 1988).

**USE IN SOUTHERN AFRICA** In some parts of southern Africa, it is used to make an invigorating beverage (Coates Palgrave 2002).

**CONSERVATION** In Mpumalanga Province, bark products are sold for between R23 kg<sup>-1</sup> and R93 kg<sup>-1</sup> (Botha *et al.* 2001).

#### *Manilkara concolor*

**FAMILY** Sapotaceae

**AUTHORITY** (Harv. ex C.H.Wright) Gerstner

**SYNONYMS** *Mimusops concolor* Harv. ex C.H.Wright

**ENGLISH/AFRIKAANS** Zulu milkberry (E), Zulu-melkbessie (A)

**ZULU** amasethole amhlope, umncambu, umnqambo, umnqabo

**DESCRIPTION** Grey, brown or black, corky with deep longitudinal fissures; branches are grey and fissured (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Decoctions of the rootbark are administered as an enema to treat backache; this is reputedly a potent medicine (Palmer and Pitman 1973).

**CONSERVATION** Lower risk in Swaziland (Dlamini and Dlamini 2002) and vulnerable in Zimbabwe (Mapaura and Timberlake 2002).

#### *Manilkara discolor*

**FAMILY** Sapotaceae

**AUTHORITY** (Sond.) J.H.Hemsl.

**SYNONYMS** *Labourdonnaisia discolor* Sond., *Manilkara natalensis* (Pierre) Engl., *Muriea discolor* (Sond.) Hartog, *Mimusops discolor* (Sond.) Hartog

**ENGLISH/AFRIKAANS** forest milkberry (E), red milkwood (E), bosmelkbessie (A), rooimelkhout (A)

**ZULU** umnqambo, umnwebe (root), umnwebe wentaba, umweba, umweba-wentaba

**DESCRIPTION** Brown to dark grey, roughly textured with longitudinal fissures, and shallowly fissured at the base in large specimens (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Used similarly to *M. concolor*, to treat backache and brittle bones (Palmer and Pitman 1973, Pooley 1993).

**CONSERVATION** Lower risk in Swaziland (Dlamini and Dlamini 2002) and Zimbabwe (Mapaura and Timberlake 2002).

#### *Manilkara mochisia*

**FAMILY** Sapotaceae

**AUTHORITY** (Baker) Dubard

**SYNONYMS** *Manilkara macaulayae* Hutch. & Corbishley, *M. umbraculigera* Hutch. & Corbishley, *Mimusops mochisia* Baker

**ENGLISH/AFRIKAANS** Lowveld milkberry (E), Laeveld-melkbessie (A)

**ZULU** inqozi, nwamba, umncambu, umnqambo

**DESCRIPTION** Very dark, rough (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** May be used in the same ways as *M. concolor* and *M. discolor* (Hutchings *et al.* 1996) to treat backache and brittle bones.

#### *Maytenus acuminata*

**FAMILY** Celastraceae

**AUTHORITY** (L.f.) Loes.

**ENGLISH/AFRIKAANS** silky-bark (E), olifantshout (A), rooisbas (A), rooi-sybasboom (A), sybas (A), sybasboom (A)

**ZULU** inama, inama elimhlope, isinama, isinama-elimhlope, umlulama, umnama

**DESCRIPTION** Grey to brown, mottled, smooth (Coates Palgrave 2002). Elastic threads are visible when bark is broken (Cunningham 2001).

**USE IN KWAZULU-NATAL** Used to treat stomach ailments (Pooley 1993).

**CONSERVATION** Lower risk in Malawi (Msekandiana and Mlangeni 2002).

**Maytenus undata**

FAMILY Celastraceae

AUTHORITY (Thunb.) Blakelock

SYNONYMS *Celastrus undatus* Thunb., *C. zeyheri* Sond., *Gymnosporia albata* (N.E.Br.) Sim, *G. deflexa* Sprague, *G. fasciculata* (Tul.) Loes., *G. peglerae* Davison, *G. undata* Thunb. Szyszyl., *G. zeyheri* (Sond.) Szyszyl., *Maytenus fasciculata* (Tul.) Loes.

ENGLISH/AFRIKAANS koko tree (E), South African holly (E), Transvaal holly (E), kokoboom (A), saffraan (A), Transvaal saffraanhout (A)

ZULU dabulalualo, idohame, igqwabali, ikhukhuze, indabulovalo, inqayi-elibomvu

DESCRIPTION Grey-brown, smooth, increasingly fissured and flaking with maturity (Coates Palgrave 2002).

USE IN KWAZULU-NATAL Used for unspecified purposes (Hutchings *et al.* 1996).**Milletia grandis**

FAMILY Fabaceae — Papilionaceae

AUTHORITY (E.Mey.) Skeels

SYNONYMS *Milletia caffra* Meisn.

ENGLISH/AFRIKAANS ironwood (E), umzimbeet (E), omsambeet (A), ysterhout (A)

ZULU umsimbithi, umsimbithwa

DESCRIPTION Pale brown, or grey to dark grey, smooth or flaking (Coates Palgrave 2002).

USE IN KWAZULU-NATAL Used for unspecified purposes (Cunningham 1988).

CONSERVATION Since it is fast growing, it is suitable for woodlot cultivation (Geldenhuys 2000).

**Mimusops caffra**

FAMILY Sapotaceae

AUTHORITY E.Mey. ex A.DC.

SYNONYMS *Mimusops oleifolia* N.E.Br., *M. woodii* Engl.

ENGLISH/AFRIKAANS coastal red milkwood (E), red milkwood (E), shore milkwood (E), kus-rooimelkhout (A), melkhout (A), moepel (A), rooimelkhout

ZULU amasethole, amasethole-abomvu, umhayihayi, umhlalankwazi, umkhayikhayi, umnole, umnole umagayi, umnweba wasolwande, umthunzi

DESCRIPTION Dark grey, longitudinally fissured; immature stems densely pubescent with long, rust-coloured hairs (Coates Palgrave 2002).

USE IN KWAZULU-NATAL Infusions are used as emetics (Hutchings *et al.* 1996).

CONSERVATION Ranked among the most frequently demanded medicinal plant species in KwaZulu-Natal (Mander 1998).

**Mimusops obovata**

FAMILY Sapotaceae

AUTHORITY Sond.

ENGLISH/AFRIKAANS bush milkwood (E), forest red milkwood (E), milkwood (E), red milkwood (E), bosmelkhout (A), bos-rooimelkhout (A), moepel (A), rooi-melkhout (A)

ZULU amasethole, amasethole abomvu, amasethole ehlathi, umhlalankwazi, umnole, umphumbulu

DESCRIPTION Pale to dark grey, rough and cracking in squares; immature branches pale brown and finely pubescent (Coates Palgrave 2002).

USE IN KWAZULU-NATAL Infusions are used as emetics (Hutchings *et al.* 1996).**Morella serrata**

FAMILY Myricaceae

AUTHORITY (Lam.) Killick

SYNONYMS *Morella mossii* Burt Davy, *M. natalensis* C.DC.,*Myrica serrata* Lam., *M. conifera* sensu Hutch.

ENGLISH/AFRIKAANS lance-leaved waxberry (E), mountain wax berry (E), wax berry (E), berg-wasbessie (A), gammabos (A), smal-blaar-wasbessie (A), wasbessie (A)

ZULU ilethi, iyethi, ulethi, umakuthula, umakhuthula, umlulama (root)

DESCRIPTION Pale grey and smooth, becoming dark grey to brown and rough with maturity (Coates Palgrave 2002).

USE IN KWAZULU-NATAL Decoctions of the rootbark are taken for colds, coughs and headaches (Gerstner 1941 cited in Hutchings *et al.* 1996).

CONSERVATION Vulnerable in Lesotho (Talukdar 2002).

**Mundulea sericea**

FAMILY Fabaceae — Papilionaceae

AUTHORITY (Willd.) A.Chev.

SYNONYMS *Cytisus sericeus* Willd., *Mundulea suberosa* (DC.) Benth., *Tephrosia suberosa* DC.

ENGLISH/AFRIKAANS cork bush (E), silver bush (E), silver leaf (E), blou-ertjiebos (A), kurkbos (A), olifantshout (A), visboontjie (A), visgif (A)

ZULU umamentabeni, umhlalantethe, umsindandlovu, usekwane

DESCRIPTION Pale grey, deeply fissured and corky (Coates Palgrave 2002).

PHYTOCHEMICAL/PHYSICAL PROPERTIES Rotenone, deguein, tephrosin, muduserone and undalone have been elucidated (Van Wyk and Gericke 2000). It is believed to be poisonous and contains a toxic glucoside (Watt and Breyer-Brandwijk 1962).

USE IN KWAZULU-NATAL Used in emetics to treat cases of suspected poisoning (Palmer and Pitman 1973).

USE IN SOUTHERN AFRICA In other regions of southern Africa, rootbark is used as a general prophylactic against disease, as an aphrodisiac, and to purify the spouse of a woman who has aborted or miscarried (Hutchings *et al.* 1996). In Venda, the rootbark is employed to specify the gender of an unborn child (Mabogo 1990 cited in Hutchings *et al.* 1996).**Mystroxydon aethiopicum**

FAMILY Celastraceae

AUTHORITY (Thunb.) Loes.

SYNONYMS *Cassine aethiopica* Thunb., *Mystroxydon aethiopicum* (Thunb.) Loes ssp. *aethiopicum*

ENGLISH/AFRIKAANS bushveld cherry (E), Cape cherry (E), koo-boo-berry (E), kubu-berry (E), spoonwood (E), barsbessie (A), kaboebessie (A), kaboehout (A), koeboebessie (A), lepelboom (A), lepelhout (A), see-saffraan (A)

ZULU inqayi, umgunguluzampunzi, umgunguluzane, umnqayi, umnqayi obomvu

DESCRIPTION Grey and smooth, becoming dark grey or brown and roughly fissured with maturity; immature branches green and softly pubescent (Venter and Venter 1996, Coates Palgrave 2002).

USE IN KWAZULU-NATAL Infusions of rootbark are made with a handful of bark in approximately 250ml cold water, and taken for dysentery and diarrhoea. Thereafter the infusion is diluted with 250ml hot water, and administered by enema (Bryant 1966 cited in Hutchings *et al.* 1996). Bark infused in milk or whey is administered as a drench to de-worm calves (Watt and Breyer-Brandwijk 1962).USE IN SOUTHERN AFRICA In Venda, it is used in magical charms (Mabogo 1990 cited in Hutchings *et al.* 1996).

CONSERVATION Severe damage by bark harvesting was reported in Tootabie Nature Reserve, Eastern Cape (La Cock and Briers 1992).

**Newtonia hildebrandtii**

FAMILY Fabaceae — Mimosaceae

AUTHORITY (Vatke) Torre

**SYNONYMS** *Newtonia hildebrandtii* (Vatke) Torre var. *hildebrandtii* Vatke, *Piptadenia hildebrandtii* Vatke

**ENGLISH/AFRIKAANS** Lebombo wattle (E), Lowveld newtonia (E), Lebombo-wattel (A)

**ZULU** udongolokamadilika, umfomothi, umfomoti

**DESCRIPTION** Dark grey, cracked and longitudinally flaking (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Powdered bark is roasted then decocted with water and elephant dung; the drops are licked from the hand to drive away 'starts' while sleeping (Palmer and Pitman 1973).

#### *Nuxia floribunda*

**FAMILY** Buddlejaceae

**AUTHORITY** Benth.

**SYNONYMS** *Lachnopylis floribunda* (Benth.) C.A.Sm.

**ENGLISH/AFRIKAANS** forest elder (E), forest nuxia (E), white elder (E), wild elder (E), wild peach (E), bosvlier (A), vlier (A), wilde-vlier (A)

**ZULU** ingobese, isanywana, ithambo, umdlambandlaze, umgwaqu, umhlambandlazi, umkhobeza, umluluma, umsunu wembuzi, umsunubuzi, umuthi wokuzila

**DESCRIPTION** Pale grey to grey-brown, rough and slightly fissured; branches purple-toned and smooth or finely pubescent when immature, becoming fissured and flaking with raised leaf scars when mature (Venter and Venter 1996, Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Contains 5.71% tannin (Watt and Breyer-Brandwijk 1962).

**USE IN KWAZULU-NATAL** Used as a strengthening medicine after the death of a kraal member (Hutchings *et al.* 1996).

**CONSERVATION** Resilient to bark removal; it may show rapid and complete regrowth after ringbarking (Cunningham 1991).

#### *Ochna holstii*

**FAMILY** Ochnaceae

**AUTHORITY** Engl.

**SYNONYMS** *Ochna acutifolia* Engl., *O. chirindica* Baker f., *O. prunifolia* Engl.

**ENGLISH/AFRIKAANS** common forest ochna (E), Natal pear (E), real red pear (E), red ironwood (E), regte-rooipeper (A), rooi-ysterhout (A)

**ZULU** isibhanku, umshelele, umthelelo

**DESCRIPTION** Dark grey to grey-brown, becoming rough; immature branches marked by small lenticels (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Pooley 1993).

#### *Ochna natalitia*

**FAMILY** Ochnaceae

**AUTHORITY** (Meisn.) Walp.

**SYNONYMS** *Ochna atropurpurea* DC. var. *natalitia* (Meisn.) Harv., *O. chilversii* E.Phillips

**ENGLISH/AFRIKAANS** coastal boxwood (E), coastal redwood (E), Natal plane (E), showy ochna (E), showy plane (E), pronk-rooihout (A), Transvaal boxwood (E), Natal-rooihout (A), rooihout (A), ysterhout (A)

**ZULU** isendengulube, isithundu, mahlanganisa, mbovu, sithundu, umadlozane, umahlanganiso, umbhovane, umbhovane-ongcinsi, umbhovane-ongcingci, umbovane, umbovu, umilamatsheni, umnandi, umshelele

**DESCRIPTION** Grey-brown or brown, finely fissured to rough or flaking; branchlets marked by lenticels and sometimes galls (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** The bark of *O. holstii* may be that known as umadlozane, which is used for unspecified purposes (Cunningham 1988).

**CONSERVATION** *O. natalitia* was ranked twelfth of the medicinal

species most frequently demanded by consumers in KwaZulu-Natal (Mander 1998).

#### *Ocotea bullata*

**FAMILY** Lauraceae

**AUTHORITY** (Burch.) Baill.

**ENGLISH/AFRIKAANS** black stinkwood (E), Cape laurel (E), Cape stinkwood (E), laurel wood (E), stinkwood (E), Kaapse lourier (A), Kaapse stinkhout (A), stinkhout (A), swart-stinkhout (A), swart-stinkhoutboom (A), witstinkhout (A), witstinkhoutboom (A)

**ZULU** nukani, umnugani, umnukane, umnukani, unukane, unukani

**DESCRIPTION** Pale brown, becoming darker and scaled with maturity (Coates Palgrave 2002). The bark has a short-lived but strong odour when cut (Hutchings *et al.* 1996), described by Cunningham (2001) as that of pig dung. Dried bark emits a strong fragrance resembling that of *Cinnamomum camphora* bark.

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** May contain up to 5.8% tannins (Watt and Breyer-Brandwijk 1962). Several neolignans have been elucidated, notably ocobullenone (Sehlapelo *et al.* 1993, Drewes *et al.* 1995 cited in Van Wyk *et al.* 1997). It also contains many volatile compounds, which may be monoterpenoids (Van Wyk *et al.* 1997). Phytochemical constituents are similar to the leaves, but less concentrated in the latter (Zschocke *et al.* 2000b, Geldenhuys 2001b). Efficacy in treatment of headaches is attributed to anti-inflammatory activity (Jäger *et al.* 1996), cyclooxygenase inhibition and 5-lipoxygenase (Zschocke *et al.* 2000a). Volatiles are recognised as the main active principles responsible for anti-inflammatory activity (Zschocke *et al.* 2000a). The bark of *Cryptocarya* spp., used as substitutes for that of *O. bullata*, show superior activity to the latter in cyclooxygenase inhibition (Zschocke and Van Staden 2000). George *et al.* (2001) cited ocobullenone from *O. bullata* as a phytomedicine with potential for commercial development in anti-inflammatory and emetic drugs. Genetic variation in populations from different regions of South Africa did not correlate to phytochemical variations observed in them (Geldenhuys 2001b).

**USE IN KWAZULU-NATAL** Powdered bark is taken as a snuff, or burned and the smoke inhaled, for headaches (Watt and Breyer-Brandwijk 1962). It is frequently used as a charm to cause competitors to become unpopular and bad smelling, due to the odour of freshly cut bark (Hutchings *et al.* 1996). A powdered mixture of the bark of a tree known as unukani, probably *O. bullata*, the bark of a tree known as umahlabekefeni, and *Zingiber officinale* root, is used to treat urinary tract infections. The preparation is administered to the bladder by blowing it through a narrow reed into the penis (Hutchings *et al.* 1996). The barks of *Cinnamomum camphora* or *Cryptocarya* spp. are sometimes substituted for that of *O. bullata* (Drewes *et al.* 1997 cited in Van Wyk *et al.* 1997, Geldenhuys 2001b).

**USE IN SOUTHERN AFRICA** An important traditional medicine in southern Africa. Its principal uses are against headache, urinary and nervous disorders, and diarrhoea in children (Van Wyk and Gericke 2000).

**CONSERVATION** Declining and vulnerable to extinction in KwaZulu-Natal, and protected; global conservation status is lower risk (Cunningham 1988, Scott-Shaw 1999). It was among the 15 most scarce medicinal species nominated by both urban and rural herbalists (Cunningham 1988). Mander (1998) reported that *O. bullata* was the second most frequently demanded medicinal plant species in KwaZulu-Natal. Similarly, Williams *et al.* (2000) reported that although perceived as scarce, it is among the most commonly traded bark products at medicinal plant markets on the Witwatersrand. In Mpumalanga Province, bark products are considered readily available and in high demand; bark is traded there for approximately R500 kg<sup>-1</sup> (Botha *et al.* 2001) (*cf.* R25 for a 50kg-sized bag of bark at Isipingo medicinal plant market, KwaZulu-Natal in 1988, and R5 in 1960 (Cunningham 1988)). In the 1980s, an

unsuccessful programme was introduced to market bark harvested from trees felled for timber in the Knysna forests (Creig 1984). *O. bullata* is currently the subject of a project to develop sustainable commercial bark and timber harvesting (Geldenhuys 2001b). Damaged trees coppice readily but shoots are susceptible to browsing; populations regenerate naturally in pioneer stands on forest margins (Geldenhuys 2001a, 2001b). Seed predation may significantly reduce germination in natural populations (Cunningham 1991). Genetic variation in populations from South African material for cultivation should be obtained locally rather than being imported from other populations (Geldenhuys 2001b). The use of *O. bullata* leaves instead of bark may represent an effective management option in future (Zschocke *et al.* 2000b, Zschocke and Van Staden 2000, Geldenhuys 2001b).

***Ocotea kenyensis***

**FAMILY** Lauraceae

**AUTHORITY** (Chiov.) Robyns & R.Wilczek

**SYNONYMS** *Ocotea viridis* Kosterm.

**ENGLISH/AFRIKAANS** bastard stinkwood (E), mock stinkwood (E), Transvaal stinkwood (E), basterstinkhout (A), Transvaal-stinkhout (A), vals-stinkhout (A)

**DESCRIPTION** Brown, rough and longitudinally scaled (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Cunningham 1988).

**CONSERVATION** Cunningham (1988) classed it as vulnerable and declining in KwaZulu-Natal, and Scott-Shaw (1999) as vulnerable. It is critically endangered in Zimbabwe (Mapaura and Timberlake 2002).

***Olea capensis***

**FAMILY** Oleaceae

**AUTHORITY** L.

**SSP TAXON** *ssp. enervis* (Harv. ex C.H.Wright) I.Verd.

**SYNONYMS** *Olea enervis* Harv. ex C.H.Wright

**ENGLISH/AFRIKAANS** bushveld-ironwood (E), ironwood (E), bosveld-ysterhout (A), ysterhout (A)

**ZULU** igwanxi, isinhletshe, umangqengqe, umsishane, umsinjane  
**DESCRIPTION** Pale grey to white, becoming darker and vertically fissured with age (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Members of the Oleaceae contain sugar alcohol, saponins, tannins, coumarins and iridoid glycosides; alkaloids are rare (Trease and Evans 1983).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Cunningham 1988).

**USE IN SOUTHERN AFRICA** Used extensively in the skin-lightener trade in the Eastern Cape Province of South Africa (La Cock and Briers 1992). In Swaziland, 50g bark is added to 1 litre warm water and a tablespoon taken three times daily to treat peptic ulcers (Amusan *et al.* 2002).

**CONSERVATION** Muir (1990) reported that *O. capensis* *ssp. macrocarpa* showed coppice regeneration from 40% of cut stems in Hlatikulu Forest Reserve, Maputaland.

***Olea europaea***

**FAMILY** Oleaceae

**AUTHORITY** L.

**SSP TAXON** *ssp. africana* (Mill.) P.S.Green

**SYNONYMS** *Olea africana* Mill., *O. chrysophylla* Lam.

**ENGLISH/AFRIKAANS** wild olive (E), olienhout (A), olyfboom (A), swart-olienhout (A)

**ZULU** isadlulambazo, isi adlulambazo, umhlwathi, umnqumo, umquma, umsityana

**DESCRIPTION** Grey and smooth (Coates Palgrave 2002), to grey-brown, rough and flaking (Venter and Venter 1996).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Members of the

Oleaceae contain sugar alcohols, saponins, tannins, coumarins and iridoid glycosides; alkaloids are rare (Trease and Evans 1983). Lignans have been isolated from the bark of both subspecies of *O. europaea*, including africanol, 8-hydroxy-pinorensin derivatives and olivil (Van Wyk *et al.* 1997).

**USE IN KWAZULU-NATAL** The bark is scraped and decocted for the treatment of bladder infections and headaches (Roberts 1983 cited in Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** In some regions of South Africa, bark and wood chips from carvings are saved for kindling. Smoke from a fire made with the kindling is believed to clear the head and blood after excessive drinking (Roberts 1990). The Xhosa use decoctions, taken each morning, to treat urinary tract complaints (Hutchings *et al.* 1996). Fresh bark is infused and taken to relieve colic (Van Wyk *et al.* 1997).

**ADDITIONAL INFORMATION** Taxonomy of the species is somewhat confused: *O. europaea* includes the subspecies *africana* (formerly *O. africana*) and *europaea* (domestic olive) (Van Wyk *et al.* 1997).

***Olea woodiana***

**FAMILY** Oleaceae

**AUTHORITY** Knobl.

**ENGLISH/AFRIKAANS** forest olive (E), bos-olien (A), bos-olienhout (A), olyfboom (A)

**ZULU** isadlulambazo, isahlulambhazo, umhlwazimamba, umnqungunya, umnquma, umnqumo

**DESCRIPTION** Pale grey and smooth (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Members of the Oleaceae contain sugar alcohols, saponins, tannins, coumarins and iridoid glycosides; alkaloids are rare (Trease and Evans 1983).

**USE IN KWAZULU-NATAL** Used as an appetite stimulant and nerve tonic (Pujol 1990 cited in Hutchings *et al.* 1996).

**CONSERVATION** Vulnerable and declining in KwaZulu-Natal (Cunningham 1988).

***Ormocarpum trichocarpum***

**FAMILY** Fabaceae — Papilionaceae

**AUTHORITY** (Taub.) Engl.

**SYNONYMS** *Diphaca trichocarpa* Taub., *Ormocarpum setosum* Burt Davy

**ENGLISH/AFRIKAANS** caterpillar bush (E), caterpillar pod (E), large caterpillar pod (E), rusperboontjie (A)

**ZULU** isithibane, umsindadlovana

**DESCRIPTION** Black-brown, corky and fissured (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Used in emetics to treat cases of suspected poisoning (Palmer and Pitman 1973).

***Ozoroa engleri***

**FAMILY** Anacardiaceae

**AUTHORITY** R. & A.Fern.

**ENGLISH/AFRIKAANS** weeping resin tree (E), white resin tree (E), treur-harpuisboom (A), wit-harpuisboom (A)

**ZULU** intovane, isifice, isifico

**DESCRIPTION** Dark brown to grey, rough, and flaking in small squares; watery latex is exuded (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** May be used in similar ways to *O. paniculosa* var. *paniculosa*, for dysentery and acute chest inflammation (Hutchings *et al.* 1996).

***Ozoroa obovata***

**FAMILY** Anacardiaceae

**AUTHORITY** (Oliv.) R. & A.Fern.

**SYNONYMS** *Heeria mucronata* Bernh. var. *obovata* (Oliv.) Engl.

**ENGLISH/AFRIKAANS** broad-leaved resin tree (E), eastern raisinberry (E), breëblaar-harpuisboom (A)

**ZULU** isifice, isifici, isifico

**DESCRIPTION** Grey, and rough in mature specimens (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** May be used in similar ways to *O. paniculosa* var. *paniculosa*, for dysentery and acute chest inflammation (Hutchings *et al.* 1996).

***Ozoroa paniculosa***

**FAMILY** Anacardiaceae

**AUTHORITY** (Son.) R. & A.Fern.

**SSP TAXON** var. *paniculosa*

**SYNONYMS** *Heeria paniculosa* (Sond.) Kuntze, *H. salicina* (Sond.) Burtt Davy

**ENGLISH/AFRIKAANS** common resin tree (E), resin tree (E), gewone harpuisboom (A), harpuisboom (A)

**ZULU** isifica, isifice, isifeco, isifeco sehlaazane

**DESCRIPTION** Grey, and rough in mature specimens; branches red-brown (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Contains tannins, coagulating and colouring agents (Hutchings *et al.* 1996).

**USE IN KWAZULU-NATAL** Powdered bark is used for acute inflammatory conditions of the chest, and dysentery (Watt and Breyer-Brandwijk 1962). For adults it is preferably mixed with unspecified parts of *Berchemia zeyheri*, and administered orally or by enema (Hutchings *et al.* 1996). Bark is used in ethnoveterinary medicine to treat abdominal ailments, but is poorly effective (Hutchings *et al.* 1996).

***Ozoroa sphaerocarpa***

**FAMILY** Anacardiaceae

**AUTHORITY** R. & A.Fern.

**ENGLISH/AFRIKAANS** bastard currant tree (E), currant resin tree (E), Lowveld resin tree (E), raisin bush (E), tar berry (E), basterkorente-harpuisboom (A), korentebos, korente-harpuisboom (A)

**ZULU** isifice, isifico

**DESCRIPTION** Dark grey, rough, cracking in squares; branches red-brown (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** May be used in similar ways to *O. paniculosa* var. *paniculosa*, to treat chest ailments and dysentery (Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** In Swaziland, 50g bark is mixed with the same quantity of *Athrixia phyllicoides* DC. bark, added to 5 litres water, and the mixture used to wash wounds twice daily for 5 days (Amusan *et al.* 2002).

***Pappea capensis***

**FAMILY** Sapindaceae

**AUTHORITY** Eckl. & Zeyh.

**SYNONYMS** *Pappea fulva* Conrath, *P. radkloferi* Schweinf. ex Radlk., *P. schumanniana* Schinz, *P. ugandensis* Bak.f., *Sapindus pappea* Sond. nom. illegit.

**ENGLISH/AFRIKAANS** bushveld cherry (E), indaba tree (E), jacket-plum (E), wild plum (E), bergpruim (A), doppruim (A), kambessie (A), noupitjie (A), oliepit (A), oliepitjie (A), pruibessie (A), wilde-pruim (A)

**ZULU** indaba, liletha, liletsa, umgqogqqa, umgqogqo, umkhokhwane, umqhokwane, umqhoqho, umvuma, uvuma, uvuma-ebomvu (root)

**DESCRIPTION** Pale grey to brown and smooth; immature branches paler (Venter and Venter 1996, Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Cunningham 1988).

**USE IN SOUTHERN AFRICA** The Swahili use moistened rootbark for chest complaints; in Botswana it is used to treat venereal diseases, and in protective sprinkling charms (Hedberg and Staugard 1989 cited in Hutchings *et al.* 1996).

**CONSERVATION** In Mpumalanga Province, bark products of a species suspected to be *P. capensis* are in high demand but readily available, and are traded for between R40 kg<sup>-1</sup> and R91 kg<sup>-1</sup> (Botha *et al.* 2001).

***Peltophorum africanum***

**FAMILY** Fabaceae — Caesalpiniaceae

**AUTHORITY** Sond.

**SYNONYMS** *Brasilletia africana* (Sond.) Kuntze

**ENGLISH/AFRIKAANS** African blackwood (E), African wattle (E), Rhodesian wattle (E), wattle (E), weeping wattle (E), huilboom (A), huilbos (A), huilwattel (A), kiaatboom (A), rookiaat (A), wilde-wattel (A), witkiaat (A)

**ZULU** iphamblebankomo, isikhabamkhombe, liphamblebankomo, umsehle, umthobo

**DESCRIPTION** Brown, rough, and longitudinally fissured; bark on immature branches is grey and smooth (Venter and Venter 1996, Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Contains tannins (Watt and Breyer-Brandwijk 1962). The gum is reputedly toxic (Palmer and Pitman 1973). Flavonoids and phenolics have been isolated in unspecified plant parts (Glasby 1991).

**USE IN KWAZULU-NATAL** Used to treat sterility and backache (Pooley 1993).

**USE IN SOUTHERN AFRICA** Fresh bark is chewed to relieve colic (Watt and Breyer-Brandwijk 1962), or decocted to treat intestinal parasites (Venter and Venter 1996). Decoctions of the powdered stem- and rootbark are used to treat diarrhoea and dysentery (Venter and Venter 1996). In Zimbabwe, decoctions are taken as a general tonic (Van Wyk and Gericke 2000). In Swaziland, 30g each of the bark and roots are ground and added to a litre of warm water; a tablespoon is taken twice daily for two days to relieve stomach cramps (Amusan *et al.* 2002). A concoction made with 50g bark boiled for 5 minutes in a litre of water, is taken in 250ml doses three times daily to treat menorrhagia (Amusan *et al.* 2002).

**CONSERVATION** In Mpumalanga Province, the bark is readily available and consumer demands high; bark products are traded for approximately R38 kg<sup>-1</sup>. In Limpopo (Northern Province), it is not in high demand (Botha *et al.* 2001). Coppice production may be manipulated by the cutting height at which trees are felled, and increased stump surface area (Shackleton 2000). It is considered low conservation risk in Namibia (Craven and Loots 2002).

***Philenoptera violacea***

**FAMILY** Fabaceae — Papilionaceae

**AUTHORITY** (Klotzsch) Schrire

**SYNONYMS** *Capassa violacea* Klotzsch, *Derris violacea* (Klotzsch) Harms, *Lonchocarpus capassa* Rolfe, *L. violaceus* (Klotzsch) Oliv.

**ENGLISH/AFRIKAANS** apple-leaf (E), lance tree (E), Panda tree (E), rain tree (E), appelblaar (A), olifantsoor (A), raasboom (A), stamperhout

**ZULU** isihomohomo, umbandu, umbhandu, umphanda

**DESCRIPTION** Pale brown to grey-brown, smooth to cracked and flaking; immature branches densely pubescent (Venter and Venter 1996, Coates Palgrave 2002). Sticky red sap is exuded from bark wounds (Coates Palgrave 1977).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Reputed to be extremely toxic (Hutchings *et al.* 1996). See Trease and Evans (1983).

**USE IN KWAZULU-NATAL** Infusions for dysentery are administered in approximately 11ml doses (Gelfand *et al.* 1985).

**USE IN SOUTHERN AFRICA** The stembark is used as a laxative, to treat skin diseases, reduce fevers, and in therapy of convulsion (Iwu 1993). Powdered bark is used to treat snakebite (Venter and Venter 1996). In Swaziland, 50g bark is added to 5 litres warm water, and the preparation taken when necessary to treat hallucination (Amusan *et al.* 2002).

**CONSERVATION** In Mpumalanga Province, it is considered to be in high demand and readily available (Botha *et al.* 2001).



***Phyllanthus meyerianus***

FAMILY Euphorbiaceae

AUTHORITY Müll. Arg.

ZULU ilethi

USE IN KWAZULU-NATAL Rootbark is used for coughs, colds and headaches (Gerstner 1941 cited in Hutchings *et al.* 1996).***Phyllanthus reticulatus***

FAMILY Euphorbiaceae

AUTHORITY Poir.

ENGLISH/AFRIKAANS potato bush (E), roast potato plant (E), aar-tappelbos (A)

ZULU intaba yengwe, munyuswane, ubutswamtimi, umchumelo, umtswathiba

DESCRIPTION Pale red-brown or grey-brown, vertically fissured (Coates Palgrave 2002).

USE IN KWAZULU-NATAL Used for bathing charms to conceal secrets from diviners (Palmer and Pitman 1973). Mixtures of the rootbark and other ingredients are stirred and the froth licked from the surface without using the hands, to give clear and penetrating vision (Hutchings *et al.* 1996). Rootbark infusions are used as emetics (Hutchings *et al.* 1996).ADDITIONAL INFORMATION Von Breitenbach *et al.* (2001) recognised only *P. reticulatus* Poir. var. *reticulatus*.***Pinus sp.\****

FAMILY Pinaceae

AUTHORITY L.

ENGLISH/AFRIKAANS pine tree (E)

ZULU abaphaphe-ababomvu, abaphaphe-abamhlope

PHYTOCHEMICAL/PHYSICAL PROPERTIES See Trease and Evans (1983) for references.

USE IN KWAZULU-NATAL Two unidentified species are commonly used for their bark (Cunningham 1988).

CONSERVATION A 50kg-sized bag of bark cost R25 from gatherers at Isipingo medicinal plant market, KwaZulu-Natal (Cunningham 1988). Seven members of the genus have been recognised as declared invaders (category 2) (Henderson 2001).

***Pittosporum viridiflorum***

FAMILY Pittosporaceae

AUTHORITY Sims

ENGLISH/AFRIKAANS cheesewood (E), white Cape beech (E), boboekenhout (A), bosbeukenhout (A), bosboekenhout (A), kaarsuur (A), kasuur (A), kersuurboom (A), witboekenhout (A)

ZULU mposhe, umfusamvu, umkhwenkwe, umkhwenkwe, umkwenkwe, umvusamu

DESCRIPTION Pale brown or grey to grey-brown, becoming rough, sometimes flaking, and marked by bands of distinctive white lenticels (Van Wyk *et al.* 1997, Coates Palgrave 2002).PHYTOCHEMICAL/PHYSICAL PROPERTIES It has *in vitro* anti-inflammatory properties (Jäger *et al.* 1996) and exhibits antibacterial and antiamebic activity (McGaw *et al.* 2000). Like other members of the genus, it may contain terpenoids or their saponins, to which pharmacological activity may be attributed (Van Wyk *et al.* 1997). It has a bitter taste and strong smell described as resinous and liquorice-like (Venter and Venter 1996, Van Wyk *et al.* 1997).USE IN KWAZULU-NATAL Pieces of bark measuring approximately 40mm x 60mm are pounded and steeped in approximately 600ml boiling water. These decoctions are taken for febrile complaints, either orally with additional water to induce vomiting, or twice the volume for enemas (Bryant 1966 cited in Hutchings *et al.* 1996). Decoctions or infusions are also used as emetics, sometimes administered by enema, against back pains, fever or stomach complaints (Watt and Breyer-Brandwijk 1962).

USE IN SOUTHERN AFRICA Used throughout southern Africa for stomach complaints, biliousness, pain and fever (Van Wyk and

Gericke 2000). The stembark is also used against chest complaints and malaria (Iwu 1993). Roasted bark is used to treat dysentery (Watt and Breyer-Brandwijk 1962). Dried, powdered bark is taken in beer as an aphrodisiac (Venter and Venter 1996). In Swaziland, 30g powdered bark is applied to the site of toothache twice daily until the pain disappears (Amusan *et al.* 2002).CONSERVATION *P. viridifolium* is not yet highly endangered, but is heavily exploited for bark products in KwaZulu-Natal (McKean 2001 pers. comm.). In Mpumalanga Province, the bark is considered to be rare but consumer demands low; it is traded at between R23 kg<sup>-1</sup> and R333 kg<sup>-1</sup> (Botha *et al.* 2001). It germinates readily in plantations of the exotic *Acacia melanoxylon* R. Br. (Cunningham 1988).***Pleurostyliia capensis***

FAMILY Celastraceae

AUTHORITY (Turcz.) Loes.

SYNONYMS *Cathastrum capense* Turcz.

ENGLISH/AFRIKAANS bastard saffron (E), coffee pear (E), mountain hard pear (E), baster-saffraan (A), bastersaffraanhout (A), berghardepeer (A), berghardpeerhout (A), koffie-hardepeer (A), koffiepeer (A)

ZULU thunyulelelwa, umngqangqa, umthelela, umthumelela, umthunyelelwa

DESCRIPTION Grey-brown, fissured and readily flaking to reveal bright orange inner bark (Coates Palgrave 2002).

USE IN KWAZULU-NATAL Used for unspecified purposes (Hutchings *et al.* 1996).USE IN SOUTHERN AFRICA The Vhavenda use stembark and rootbark from male plants as charms for sorcery and benevolence (Mabogo 1990 cited in Hutchings *et al.* 1996).CONSERVATION Cunningham (1988) classed it as vulnerable and declining in KwaZulu-Natal. A 50kg-sized bag of bark cost R10 from gatherers at Isipingo medicinal plant market, KwaZulu-Natal (Cunningham 1988). In Mpumalanga Province, it is not readily available and consumer demands are high; bark products are traded at between R20 kg<sup>-1</sup> and R59 kg<sup>-1</sup> (Botha *et al.* 2001).***Podocarpus falcatus***

FAMILY Podocarpaceae

AUTHORITY (Thunb.) R.Br. ex Mirb.

SYNONYMS *Afrocarpus falcatus* (Thunb.) C.N.Page, *Podocarpus gracillimus* Stapf, *P. gracilior* sensu Burt Davy

ENGLISH/AFRIKAANS common yellowwood (E), falcate yellowwood (E), Outeniqua yellowwood (E), bastergeelhout (A), blou-geelhout (A), fynblaar-geelhout (A), gewone geelhout (A), kalander (A), kolander (A), kroes-geelhout (A), nietlander (A), nikolander (A), Outeniekwa geelhout (A)

ZULU umgeya, umhlelane, umhlenhlane, umkhandangoma, umpume, umsonti, unomphumelo

DESCRIPTION Thin, grey-brown to dark brown, and smooth, sometimes flaking in curled, circular or rectangular pieces (Venter and Venter 1996, Coates Palgrave 2002).

PHYTOCHEMICAL/PHYSICAL PROPERTIES See Trease and Evans (1983).

USE IN KWAZULU-NATAL Bark is burned in the cattle kraal to prevent livestock from straying (Hutchings *et al.* 1996).

CONSERVATION Seedlings and saplings have been observed in the understorey of exotic plantations in KwaZulu-Natal (Geldenhuys 2000). It is fast growing and suited to establishment in woodlots (Geldenhuys 2000). Coppice production is good (Muir 1990).

***Podocarpus henkelii***

FAMILY Podocarpaceae

AUTHORITY Stapf ex Dallim. &amp; Jacks.

SYNONYMS *Podocarpus falcatus* Sim, *P. thunbergii* Hook. var. *falcata* Sim

ENGLISH/AFRIKAANS East Griqualand yellow-wood (E), Henkel's

yellowwood (E), Natal yellow-wood (E), baster-Outeniekwageelhout (A), bastergeelhout (A), Henkel-se-geelhout (A)

**ZULU** abanqongqosi, abanqongqosi, abanqongqosi, umsoni  
**DESCRIPTION** Yellow-grey, brown or dark grey; longitudinally fissured and flaking in long, narrow strips to expose red-brown inner bark in mature specimens (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Contains up to 6.1% tannins (Watt and Breyer-Brandwijk 1962). See Trease and Evans (1983).

**USE IN KWAZULU-NATAL** Widely used for unspecified purposes (Cunningham 1988). The bark of *P. henkelii* may be that known as abanqongqosi, used for love charms (Hutchings *et al.* 1996).

**CONSERVATION** *P. henkelii* is extremely sensitive to bark removal (Cunningham 1991).

#### *Podocarpus latifolius*

**FAMILY** Podocarpaceae

**AUTHORITY** (Thunb.) R.Br. ex Mirb.

**SYNONYMS** *Podocarpus milanjanus* Rendle, *P. thunbergii* Hook.

**ENGLISH/AFRIKAANS** broad-leaved yellowwood (E), real yellowwood (E), true yellow-wood (E), upright yellowwood (E), yellowwood (E), geelhout (A), Kaapse geelhout (A), opregte geelhout (A), regte geelhout (A), westelike geelhout (A)

**ZULU** umgeya, umkhoba, umsoni

**DESCRIPTION** Yellow-brown, grey-brown to dark brown and flaking in narrow vertical flakes (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Contains up to 3.6% tannins (Watt and Breyer-Brandwijk 1962). See Trease and Evans (1983).

**USE IN KWAZULU-NATAL** Widely used for unspecified purposes (Hutchings *et al.* 1996).

**CONSERVATION** *P. latifolius* germinates readily in plantations of the exotic *Acacia melanoxylon* R.Br. (Cunningham 1988).

#### *Protea caffra*

**FAMILY** Proteaceae

**AUTHORITY** Meisn.

**SSP TAXON** ssp. *caffra*

**SYNONYMS** *Protea baurii* E.Phillips, *P. bolusii* E.Phillips, *P. multi-bracteata* E.Phillips, *P. natalensis* E.Phillips, *P. pegleriae* E.Phillips, *P. rhodantha* Hook.f., *P. stipitata* E.Phillips

**ENGLISH/AFRIKAANS** common sugarbush (E), Highveld protea (E), Natal sugarbush (E), gewone suikerbos (A), hoeveldsuikerbos (A), suikerbos (A)

**ZULU** isiqalaba, isiqalaba-sentaba, uhlinkhlane

**DESCRIPTION** Grey to black, rough and deeply cracked (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** See Trease and Evans (1983).

**USE IN KWAZULU-NATAL** Warm infusions of rootbark are used to treat bleeding stomach ulcers, administered in 125ml doses between meals (Hutchings *et al.* 1996). They are also administered to calves with bloody diarrhoea (Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** In Venda, bark is used to treat dizziness (Mabogo 1990 cited in Hutchings *et al.* 1996).

#### *Protea roupelliae*

**FAMILY** Proteaceae

**AUTHORITY** Meisn.

**SSP TAXON** ssp. *roupelliae*

**SYNONYMS** *Protea lanuginosa* (Kuntze) K.Schum., *P. rudatisii* Engl., *P. transvaalensis* (Gand.) Gand. & Schinz Engl.

**ENGLISH/AFRIKAANS** Drakensberg protea (E), silver protea (E), silver-leaved protea (E), sugar bush (E), silver sugarbush (E), Transvaal silver-leaf (E), silwer-suikerbos (A), silwerblaar-suikerbos (A), suikerbos (A), waboom (A)

**ZULU** isiqalaba, isiqalaba-sentaba, uqhambathi

**DESCRIPTION** Dark grey, rough, deeply fissured and cracked but smooth in mature specimens (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** See Trease and Evans (1983).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Cunningham 1988).

#### *Protosrus longifolia*

**FAMILY** Anacardiaceae

**AUTHORITY** (Bernh.) Engl.

**SYNONYMS** *Rhus longifolia* (Bernh.) Sond.

**ENGLISH/AFRIKAANS** red beech (E), purple currant (E), red Cape beech (E), harpuisboom (A), rooiblaar (A), rooiboekenhout (A), rooimelkhout (A)

**ZULU** inhlangothi, inhluthe, isifice, isifico, isifico-sehlathi, umhlangothi, umhluthi, umhluthi wehlathi, umkhomizo, umuthi-ebomvu, unhlangothi

**DESCRIPTION** Red-brown and smooth, becoming dark brown and rough; a sticky exudate is released on wounding (Venter and Venter 1996, Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Yields up to 18% tanning material (Watt and Breyer-Brandwijk 1962), and 7% tannins (Venter and Venter 1996). It is toxic (Cunningham 1988) and has shown *in vitro* anti-inflammatory activity (Jäger *et al.* 1996).

**USE IN KWAZULU-NATAL** Powdered bark (umsinzi) is injected into a patient suffering from hemiplegic paralysis, possibly caused by witchcraft, as it is said to be poisonous (Gerstner 1941 cited in Hutchings *et al.* 1996, Cunningham 1988). Decoctions taken as emetics in 200ml doses are used to relieve heartburn and bleeding in the stomach (Pujol 1990 cited in Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** The exuded from the bark is used as a depilatory (Coates Palgrave 2002).

**CONSERVATION** Indeterminate conservation status in KwaZulu-Natal (Cunningham 1988).

#### *Prunus africana*

**FAMILY** Rosaceae

**AUTHORITY** (Hook.f.) Kalkman

**SYNONYMS** *Laurocerasus africana* (Hook.f.) Browicz, *Pygeum africanum* Hook.f.

**ENGLISH/AFRIKAANS** African almond (E), African cherry (E), bitter almond (E), red stinkwood (E), wild almond (E), Afrika-amandel (A), bitter-amandel (A), bitteramandelboom (A), nuweamandelhout (A), rooi-stinkhout (A), wilde-kersieboom (A)

**ZULU** inkhokho, inkhokhokho, inyazangoma-elimnyama, inyazangoma-elimnyana, ngubozinyeweni, umdumezulu, umdumizula, umkhakhazi, umlalume

**DESCRIPTION** Dark brown to black, rough (Van Wyk *et al.* 1997, Coates Palgrave 2002), with a distinctive scent of almonds (Cunningham 2001).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Reputedly toxic (Palmer and Pitman 1972). The cyanogenic glycoside amygdalin has been identified (Watt and Breyer-Brandwijk 1962). Phytosterols such as  $\beta$ -sitosterol (free and conjugated forms), to which activity against prostatic adenoma may be attributed, have been isolated (Bruneton 1995). It is patented in France for use against prostate cancer (George and Van Staden 2000), and hair tonics (Hutchings *et al.* 1996). Activity against prostatic hypertrophy is attributed to a synergistic effect of phytosterols, pentacyclic triterpenes and ferulic esters in chloroform-extracted bark (ICRAF Online 2000). The bark also contains campesterol, pentacyclic triterpenoid esters, linear aliphatic alcohols, and ferulic acid esters thereof (Bruneton 1995). George *et al.* (2001) cited amygdalin and  $\beta$ -sitosterol from *P. africana* as phytochemicals with potential for commercial development, in drugs to treat benign prostate hypertrophy.

**USE IN KWAZULU-NATAL** Decoctions are used to treat intercostal pain (Pujol 1990 cited in Hutchings *et al.* 1996).

**USE** In Europe, lipid and phytosterol extracts are commonly used in symptomatic therapy of prostatism caused by benign prostate hypertrophy; 100mg is administered daily in six to eight week cycles (Bruneton 1995). Pharmaceuticals containing *P. africana* bark extracts are also manufactured in the United States and several south American countries (Cunningham and Cunningham 2000).

**CONSERVATION** Declining in KwaZulu-Natal (Cunningham 1988), and is conservation dependent and protected, with CITES II status (Scott-Shaw 1999). It is vulnerable in Malawi (Msekandiana and Mlangeni 2002) and of lower risk in Zambia (Bingham and Smith 2002). *P. africana* is heavily exploited for bark products in KwaZulu-Natal (McKean 2001 pers. comm.). The bark is one of the ten most commonly stocked products on the Witwatersrand (Williams 1996). *P. africana* bark is the largest internationally-traded volume of a medicinal plant species in Africa (Cunningham and Cunningham 2000). In Cameroon alone, bark harvests increased from 200 tons to 2 000 tons from 1980 to 2000 (ICRAF Online 2000). Conservation-through-cultivation is being explored in some African countries (ICRAF Online 2000). *P. africana* is particularly resilient to harvesting pressure, and may exhibit regrowth after complete bark removal (Cunningham and Mbenkum 1993). Populations regenerate naturally in forest margins, and saplings have been observed in the understory of tall *Pinus* plantations in KwaZulu-Natal (Geldenhuys 2001b). Since it is fast growing, Geldenhuys (2000) recommended it for woodlot cultivation.

#### *Ptaeroxylon obliquum*

**FAMILY** Ptaeroxylaceae

**AUTHORITY** (Thunb.) Radlk.

**SYNONYMS** *Ptaeroxylon utile* Eckl. & Zeyh.

**ENGLISH/AFRIKAANS** sneezewood (E), nieshout (A), stinkhout (A)

**ZULU** umbhaqa, umfazi-othetha, umthathe

**DESCRIPTION** Pale grey, almost white, becoming dark and fissured and sometimes flaking with age (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Powdered wood is a potent irritant and induces sneezing (Van Wyk *et al.* 1997). The wood contains many unusual chromones and other phenolics, such as ptaeroxylone and umtatin (Dean and Taylor 1966 cited in Van Wyk *et al.* 1997). Compounds isolated from the bark include the acid saponin sapttaeroxylon, volatile oil, pyrogallol tannins, resins, fats, and the flavone glycoside ptaeroxylon (Hutchings *et al.* 1996). An alkaloid elucidated in the bark shows cardiac depressant activity (Hutchings *et al.* 1996).

**USE IN KWAZULU-NATAL** Used for rheumatism and arthritis (Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** The Xhosa use powdered wood as snuff for recreational purposes or to relieve headache (Watt and Breyer-Brandwijk 1962). Infusions are used to relieve rheumatism and arthritis (Pujol 1990 cited in Van Wyk *et al.* 1997).

**CONSERVATION** Considered of lower risk status in Namibia (Craven and Loots 2002). Populations regenerate naturally in forest margins, and saplings have been observed in the understory of tall *Pinus* plantations in KwaZulu-Natal (Geldenhuys 2001b). It coppices well (75% of cut stems) (Muir 1990). Since it is fast growing, *P. obliquum* is suitable for woodlot cultivation (Geldenhuys 2000).

#### *Pterocarpus angolensis*

**FAMILY** Fabaceae — Papilionaceae

**AUTHORITY** DC.

**SYNONYMS** *Pterocarpus bussei* Harms, *P. dekindtianus* Harms

**ENGLISH/AFRIKAANS** bloodwood (E), kiaat (E), paddle-wood (E), round-leaved kiaat (E), sealing-wax tree (E), Transvaal teak (E),

wild teak (E), bloedhout (A), dolf (A), dolfhout (A), dopperkiaat (A), greinhout (A), kajatenhout (A), kiaat (A), lakhout (A), wilde-kiaat (A) **ZULU** indlandlovu, umbilo, umvangazi

**DESCRIPTION** Dark grey to brown, rough and longitudinally fissured, resembling crocodile skin; sticky red sap is exuded from wounds (Coates Palgrave 2002). Immature branches are velvet-textured due to pubescence (Venter and Venter 1996).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** Red sap from the inner bark is used to heal sores and to treat ringworm in Namibia (Watt and Breyer-Brandwijk 1962). Inner rootbark is sold in small bundles; it is powdered and mixed with animal fat and the ointment applied as a body lotion (Coates Palgrave 1977). Stem bark is heated, mixed with bark of figs [*Ficus* spp.] and other species, and the ointment applied to the breasts as a galactagogue (Watt and Breyer-Brandwijk 1962). Bark may be boiled with fresh meat, and used to treat gonorrhoea (Coates Palgrave 1977). In Zimbabwe, infusions are used to treat diarrhoea and menorrhagia; it is also used against schistosomiasis, blood in urine, backache, earache, ulcers and depressed fontanelles in infants (Gelfand *et al.* 1985). In South Africa, it is boiled and the resulting red liquid applied to skin lesions and ringworm infections, or a decoction taken to treat haemorrhoids (Venter and Venter 1996).

**CONSERVATION** Vulnerable in Malawi (Msekandiana and Mlangeni 2002) and Namibia (Craven and Loots 2002) but lower risk in Zimbabwe (Mapaura and Timberlake 2002).

#### *Pterocelastrus echinatus*

**FAMILY** Celastraceae

**AUTHORITY** N.E.Br.

**SYNONYMS** *Pterocelastrus galpinii* Loes., *P. rehmannii* Davison, *P. variabilis* sensu Sim

**ENGLISH/AFRIKAANS** hedgehog pterocelastrus (E), hedgehog tree (E), white candlewood (E), white cherrywood (E), wit-kershout (A)

**ZULU** ingayi-elimbomvu, inqayi-elibomvu, isihlulumanye, ugob-andlovu, usahlulamanye

**DESCRIPTION** Pale grey or brown, and thin; in immature specimens it scrapes away easily to reveal bright orange underbark (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Cunningham (1988) noted its use, and Pujol (1990 cited in Hutchings *et al.* 1996) reported that *Pterocelastrus* spp., known as usahlulamanye, are taken as emetics for respiratory ailments, frequently with *Alepidia amatymbica* Eckl. & Zeyh.

**USE IN SOUTHERN AFRICA** In Swaziland, 50g bark is ground with the same quantity of *Rapanea melanophloeos* bark, added to a litre of warm water, and taken in tablespoon doses three times daily to treat general body aches (consumption of sugar and maize meal is contra-indicated) (Amusan *et al.* 2002).

**CONSERVATION** Cunningham (1988) classed it as declining in KwaZulu-Natal. The bark of an unidentified *Pterocelastrus* is one of the most commonly stocked products on the Witwatersrand (Williams 1996). In Mpumalanga Province, *Pterocelastrus* bark is in high demand and costs between R15 kg<sup>-1</sup> and R48 kg<sup>-1</sup> (Botha *et al.* 2001).

#### *Pterocelastrus rostratus*

**FAMILY** Celastraceae

**AUTHORITY** Walp.

**ENGLISH/AFRIKAANS** red candlewood (E), red cherrywood (E), white pear (E), kershout (A), kersiehout (A), rooi-kersboom (A), rooi-kershout (A)

**ZULU** usahlulamanye

**DESCRIPTION** Dark grey; bark of immature stems is red (Coates

Palgrave 1977).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Bark yields 2% tannin (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** An antidote to suspected sorcery (Doke and Vilakazi 1972 cited in Hutchings *et al.* 1996). Powdered bark, mixed with other medicinal plants and the carcasses of fruit bats, is used to treat spinal disease (Coates Palgrave 2002). It is possibly used as an emetic for respiratory ailments, frequently with *Alepidia amatymbica* Eckl. & Zeyh. (Pujol 1990 cited in Hutchings *et al.* 1996).

**CONSERVATION** Classed as declining in KwaZulu-Natal (Cunningham 1988). The bark of an unidentified *Pterocelastrus* is among the most commonly stocked products on the Witwatersrand (Williams 1996). In Mpumalanga Province, *Pterocelastrus* bark is in high demand and costs between R15 kg<sup>-1</sup> and R48 kg<sup>-1</sup> (Botha *et al.* 2001).

#### *Pterocelastrus tricuspidatus*

**FAMILY** Celastraceae

**AUTHORITY** (Lam.) Sond.

**SYNONYMS** *Pterocelastrus litoralis* Walp., *P. stenopterus* Walp., *P. tetrapteris* Walp.

**ENGLISH/AFRIKAANS** candlewood (E), cherrywood (E), kershout (A), kersiehout (A), rooikershout (A), witpeer (A)

**ZULU** usahlulamanye

**DESCRIPTION** Grey to red-brown, smooth and heavily lenticelled, becoming dark, corky and fissured with maturity (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Bark contains tannins (Watt and Breyer-Brandwijk 1962).

**USE IN KWAZULU-NATAL** Possibly used as an emetic for respiratory ailments, frequently with *Alepidia amatymbica* Eckl. & Zeyh. (Pujol 1990 cited in Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** The Xhosa use it for tanning (Watt and Breyer-Brandwijk 1962).

**CONSERVATION** Cunningham (1988) classed it as declining in KwaZulu-Natal. The bark of an unidentified *Pterocelastrus* is among the most commonly stocked products on the Witwatersrand (Williams 1996). In Mpumalanga Province, *Pterocelastrus* bark is in high demand and costs between R15 kg<sup>-1</sup> and R48 kg<sup>-1</sup> (Botha *et al.* 2001).

#### *Rapanea melanophloeos*

**FAMILY** Myrsinaceae

**AUTHORITY** (L.) Mez

**SYNONYMS** *Myrsine melanophloeos* (L.) R. Br.

**ENGLISH/AFRIKAANS** Cape beech (E), rapanea (E), boekenhout (A), Kaapse boekenhout (A), rooiboekenhout (A), swartbas (A)

**ZULU** ikhubalwane, inhluthe, isicalabi, isiqalaba-sehlathi, maphipha, umaphipha, umaphipha-khubalo, umhluti-wentaba, uvukwabafile

**DESCRIPTION** Pale grey, smooth, corky, sometimes marked by small diamond-shaped lenticels in raised areas or flaking (Van Wyk *et al.* 1997, Coates Palgrave 2002). Bark on immature branches is pink-grey, smooth with raised lenticels (Venter and Venter 1996).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Triterpenoid saponins, such as sakurasosaponin, are likely to occur in the bark as they are present in the leaves (Ohtani *et al.* 1993 cited in Van Wyk *et al.* 1997). Saponins may be responsible for the expectorant properties of the bark (Van Wyk *et al.* 1997). It contains 12–15% tannin (Venter and Venter 1996). Rapanone was isolated in substantial amounts from specimens collected in the Kirkwood forests of KwaZulu-Natal, but the compound was absent from cultivated specimens (George *et al.* 2001).

**USE IN KWAZULU-NATAL** Used as a sprinkling charm against lightning, and against acidity, muscular pain, fever, and to strengthen the heart (Gerstner 1939, 1941 cited in Hutchings *et al.* 1996,

Pujol 1990). Decoctions are used as expectorants, emetics and enemas (Watt and Breyer-Brandwijk 1962).

**USE IN SOUTHERN AFRICA** Decoctions of the ground bark are administered to treat haematemesis and stomach complaints; infusions are taken three times daily to remedy tearfulness (Hutchings *et al.* 1996). Bark is dried and powdered, or fresh pieces chewed, to relieve sore throats and treat wounds; decoctions are used as expectorants or emetics (Venter and Venter 1996). It is used extensively in the skin-lightener trade in the Eastern Cape Province (La Cock and Briers 1992). In Swaziland, 50g bark is mixed with the same quantity of *Pterocelastrus echinatus* bark, added to a litre of warm water, and taken in tablespoon doses three times daily to treat general body aches (consumption of cane sugar or maize meal is contra-indicated) (Amusan *et al.* 2002).

**CONSERVATION** Although not highly endangered, *R. melanophloeos* is heavily exploited in KwaZulu-Natal (McKean 2001 pers. comm.), and the bark widely traded in South Africa (Mander *et al.* 1997). It is commonly available at medicinal plant markets on the Witwatersrand (Williams *et al.* 2000). In Mpumalanga Province, bark products are traded at between R33 kg<sup>-1</sup> and R83 kg<sup>-1</sup> (Botha *et al.* 2001). In contrast, a 50kg-sized bag of bark cost R10 from gatherers at Isipingo medicinal plant market, KwaZulu-Natal in 1988 (Cunningham 1988). Debarked trees do not recover easily, and coppice from debarked wounds and basal regions is poor (Geldenhuys 2001b). Bark harvesting should be limited to narrow vertical strips to facilitate regeneration (Geldenhuys 2001b). Populations regenerate naturally in forest margins and saplings have been observed in plantations of the exotic *Acacia melanoxylon* R. Br. (Cunningham 1988) and *Pinus* in KwaZulu-Natal (Geldenhuys 2001b). It is fast growing and suited to woodlot cultivation (Geldenhuys 2000).

#### *Rauvolfia caffra*

**FAMILY** Apocynaceae

**AUTHORITY** Sond.

**SYNONYMS** *Rauvolfia natalensis* Sond.

**ENGLISH/AFRIKAANS** quinine tree (E), kinaboom (A), koorsboom (A), waterboekenhout (A)

**ZULU** umhlambamanzi, umhlambamasi, umhlambhamanzi, umjele, umkhabamasi, umkhadlukungu, umthundisa

**DESCRIPTION** Grey to pale yellow-brown, rough and cracking in squares but soft and corky; bark of immature specimens show characteristically wrinkled, glossy green bark with conspicuous leaf scars; milky latex is exuded (Venter and Venter 1996, Van Wyk *et al.* 1997, Coates Palgrave 2002). Bark texture varies greatly between specimens growing in coastal and upland regions (Cunningham 2001).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Bark is bitter (Hutchings *et al.* 1996) and is reported to induce severe abdominal pain and vomiting (Watt and Breyer-Brandwijk 1962). Cyanogenic glycosides, leucoanthocyanins, saponins, tannins, coumarins, phenolic acids, cyclitols and triterpenoids are typical constituents of the Apocynaceae (Trease and Evans 1983). Many indole alkaloids occur in *R. caffra*, notably reserpine and ajmalicine (also referred to as raubasine), although this species is not a source of commercially used alkaloids (Van Wyk and Gericke 2000). Reserpine is a well-known antihypertensive, antipsychotic and sedative, but evokes depression as a side effect. Ajmalicine is used in proprietary products that treat psychological and behavioural problems associated with senility, stroke and head injuries (Van Wyk and Gericke 2000). Due to the presence of these alkaloids (possibly carboline alkaloids (Glasby 1991)), the bark is toxic (Watt and Breyer-Brandwijk 1962). Immature rootbark may contain up to 3.05% alkaloids (Madati *et al.* 1977 cited in Hutchings *et al.* 1996). George *et al.* (2001) cited *R. caffra* as a potentially commercial source of reserpine and ajmaline, for antihypertensive drugs used in therapy of cerebro-vascular and cranial traumas. See Trease and Evans (1983) and Hutchings *et al.* (1996).

**USE IN KWAZULU-NATAL** Preparations are applied to measles, urticaria and other rashes, and bark is an ingredient in emetics to reduce fever (Gerstner 1939 and Bryant 1966 cited in Hutchings *et al.* 1996). Decoctions containing the rootbark of *R. caffra*, *Zanthoxylum capense*, *Capparis tomentosa* Lam. and *Euclea natalensis*, roots or bulbs of *Polygala fruticosa* Berg., *Crinum* sp., *Cyrtanthus obliquus* Ait. and *Raphionacme* spp., are used to purify the blood, and to treat scrofula. The mixture is heated to induce perspiration, and the decoction taken mornings and evening thereafter (Bryant 1966 cited in Hutchings *et al.* 1996). Bark is chewed to relieve coughs, and is used against uterine complaints (Palmer and Pitman 1973, Pujol 1990 cited in Hutchings *et al.* 1996). The bark of umhlabamanzi, reportedly *R. caffra*, is used in medicines for abdominal pain, as a diuretic, and to ward off evil spirits (Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** Outside KwaZulu-Natal, decoctions are used to relieve abdominal and pelvic ailments (Hutchings *et al.* 1996). Decoctions are used as a tranquilliser for hysteria and insomnia, and against fever and malaria (Van Wyk *et al.* 1997).

**CONSERVATION** Readily cultivated from seed and is fast-growing (Coates Palgrave 1977).

#### *Rhamnus prinoides*

**FAMILY** Rhamnaceae

**AUTHORITY** L'Hér.

**SYNONYMS** *Celtis rhamnifolia* Presl. nom. illegit., *Rhamnus celtifolius* Thunb., *R. pauciflorus* Hochst. ex A.Rich.

**ENGLISH/AFRIKAANS** Camdeboo (E), dogwood (E), glossy-leaf (E), shiny leaf (E), stinkwood (E), blinkbaar (A), hondepishout (A), Kamdeboo-stinkhout (A), seerkeelboom (A)

**ZULU** ulenyenye, umgilindi, umhlinye, umnyenye, umyenyene (root), unyenyana, unyenyene (root)

**DESCRIPTION** Grey to brown, becoming darker with age, smooth, and marked by lenticels (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Members of the genus contain purgative quinones such as anthraquinones, anthranols and their glycosides (Trease and Evans 1983). See Abegaz *et al.* (1996).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** In the Eastern Cape (Transkei), decoctions are taken as emetics, and powdered bark as snuff for mental disorders (Hutchings *et al.* 1996). In other parts of South Africa, rootbark decoctions are taken to purify the blood, and to treat pneumonia (Venter and Venter 1996).

#### *Rhus chirindensis*

**FAMILY** Anacardiaceae

**AUTHORITY** Baker.f.

**SYNONYMS** *Rhus legatii* Schonland

**ENGLISH/AFRIKAANS** bush currant (E), forest currant (E), red currant (E), red currant rhus (E), tree currant (E), bloedhout (A), bosgarrie (A), bos-taibos (A), ganna (A), taibos (A)

**ZULU** ikhathabane, inhlokoshiyane-enkulu, inhlokoshiyane-enkhu-lu, inhlokoshiyane-yehlati, inyazangoma-elimnyama, isibanda, uludwendwe lwengcuba, umdwendwe-lwengcuba, umdwendwelencuba, umhlabamvubu, umhlabamvuti, umyazangoma-ebomvu, umyazangoma-embomvu, umyazangoma-embomvu

**DESCRIPTION** Smooth and brown (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Duncan *et al.* (1999) reported that extracts showed angiotensin converting enzyme (ACE) inhibitors, indicating possible uses in treating hypertension. See Trease and Evans (1983).

**USE IN KWAZULU-NATAL** Used to strengthen the body, stimulate circulation, and relieve rheumatism (Pujol 1990 cited in Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** Decoctions are used to treat mental

illness in the Transkei (Hutchings *et al.* 1996).

**CONSERVATION** Geldenhuys (2001a) considered it a key species damaged by bark harvesting in the Umzimkulu district of KwaZulu-Natal.

#### *Rotheca myricoides*

**FAMILY** Verbenaceae

**AUTHORITY**(Hochst.) Steane & Maberley

**SSP TAXON** ssp. *myricoides* var. *myricoides*

**SYNONYMS** *Clerodendrum myricoides* (Hochst.) Vatke, *Cyclonema myricoides* Hochst.

**ENGLISH/AFRIKAANS** blue cat's whiskers (E), blou-katsnorbos (A), kleinharpuisblaar (A)

**ZULU** umathanjana, umbozwa

**DESCRIPTION** Grey, striated and marked with lenticels, becoming rough with age (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Powdered bark is administered in 5ml doses as an antidote for snakebite (Watt and Breyer-Brandwijk 1962).

**ADDITIONAL INFORMATION** Considered to be among the most important medicinal plants used in Africa (Iwu 1993).

#### *Schotia brachypetala*

**FAMILY** Fabaceae — Caesalpiniaceae

**AUTHORITY** Sond.

**SYNONYMS** *Schotia brachypetala* Sond. var. *pubescens* Burt Davy, *S. rogersii* Burt Davy, *S. semireducta* Merxm.

**ENGLISH/AFRIKAANS** Boer-bean (E), fuschia tree (E), tree fuschia (E), weeping boer-bean (E), weeping schotia (E), boerboon (A), Hottentotsboerboon (A), huilboerboon (A)

**ZULU** ihlusi, ihluze, umgxamu, umxano, uvovovo

**DESCRIPTION** Brown to brown-grey or red-brown, rough (Venter and Venter 1996, Van Wyk *et al.* 1997, Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Pharmacological efficacy may be attributable to tannins (Bruneton 1995). Decoctions are reported to cause vomiting (Hulme 1954 cited in Hutchings *et al.* 1996). The heartwood contains polyhydroxystilbenes (Drewes and Fletcher 1974 cited in Van Wyk *et al.* 1997). Phenolics and stilbenes have been elucidated in unspecified plant parts (Glasby 1991).

**USE IN KWAZULU-NATAL** Infusions are taken as emetics for acne (Hulme 1954 cited in Hutchings *et al.* 1996), and decoctions for heartburn and after excessive drinking (Watt and Breyer-Brandwijk 1962). It is used to strengthen the body, and as a face steamer (Pujol 1990 cited in Hutchings *et al.* 1996). It is an ingredient of red bark mixtures known as ikhubalo, used to ward off evil and cure unspecified ailments (Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** In regions of South Africa, decoctions are used to relieve heartburn and hangover (Coates Palgrave 1977). It is used in Venda to treat nervous and cardiac conditions (Netshiangani 1981 cited in Van Wyk *et al.* 1997). It is used in washes applied to swellings (Hutchings *et al.* 1996). In Swaziland, 50g bark is ground with the same quantity bark of *Sclerocarya birrea*, added to 5 litres warm water, and taken in 250ml doses as an emetic; a 5 litre mixture prepared similarly is boiled for steaming to treat painful shoulders as necessary (Amusan *et al.* 2002).

**CONSERVATION** Cunningham (1988) reported a 50kg-sized bag of bark cost R10 from gatherers at Isipingo medicinal plant market, KwaZulu-Natal. Mander (1998) ranked it among the thirteen most frequently demanded medicinal species in KwaZulu-Natal.

#### *Schotia capitata*

**FAMILY** Fabaceae — Caesalpiniaceae

**AUTHORITY** Bolle

**SYNONYMS** *Schotia tamarindifolia* Azel. Ex Sims var. *forbesiana* Baill., *S. transvaalensis* Rolfe, *Theodora capitata* (Bolle) Taub.

**ENGLISH/AFRIKAANS** dwarf boer-bean (E), dwarf schotia (E), forest tree-fuschia (E), Transvaal boer-bean (E), tree fuschia (E),

wild fuschia (E), huilboerboon (A), klein-boerboon (A), Transvaal boerboon (A)

**ZULU** isincasha, isivovovane-esincane, isivovwane, umgxamu, uvovo, uvovovwana

**DESCRIPTION** Grey and smooth, becoming dark brown and rough (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Hutchings *et al.* 1996).

**CONSERVATION** Cunningham (1988) reported a 50kg-sized bag of bark cost R10 from gatherers at Isipingo medicinal plant market, KwaZulu-Natal. Mander (1998) ranked it among the thirteen most frequently demanded medicinal species in KwaZulu-Natal. In Zimbabwe, it is critically endangered (Mapaura and Timberlake 2002).

### ***Sclerocarya birrea***

**FAMILY** Anacardiaceae

**AUTHORITY** (A.Rich.) Hochst.

**SSP TAXON** ssp. *caffra* (Sond.) Kokwaro

**SYNONYMS** *Sclerocarya caffra* Sond., *S. schweinfurthiana* Schinz

**ENGLISH/AFRIKAANS** cider tree (E), marula (E), maroela (A)

**ZULU** umganu

**DESCRIPTION** Grey, rough and flaking, mottled; immature branches are grey and smooth with conspicuous leaf scars (Venter and Venter 1996, Van Wyk *et al.* 1997, Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Extracts do not show *in vitro* anti-malarial effects (Watt and Breyer-Brandwijk 1962). Antidiarrhoeal properties are attributed to procyanidins (Galvez *et al.* 1993 cited in Van Wyk and Gericke 2000). High tannin content (20.5%) and alkaloids (Venter and Venter 1996) may contribute to antidiarrhoeal activity. Procyanidins isolated from the bark inhibit peristalsis in guinea-pig colon, and have antidiarrhoea effects on guinea-pig ileum and in mice (Galvez *et al.* 1991, 1993 cited in Hutchings *et al.* 1996). Stembark extracts have shown antimicrobial activity (Hussein and Deeni 1991 cited in Hutchings *et al.* 1996). McGaw *et al.* (2000) reported antiamebic and antibacterial activity of polar extracts. Inner bark has antihistaminic activity against insect bites and burns caused by caterpillar hairs (Venter and Venter 1996).

**USE IN KWAZULU-NATAL** Decoctions are administered as enemas to treat malaria and diarrhoea, or taken as a tea twice daily to strengthen the heart, or as blood-cleansing emetics before marriage (Gerstner 1939 cited in Hutchings *et al.* 1996, Pujol 1990). Decoctions are used as a wash for patients with gangrenous rectitis, and are also used by the traditional healer before consulting the patient (Bryant 1966 cited in Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** In Venda, powdered bark is administered to pregnant women to influence the sex of the expected child (bark taken from the male or female tree results in the birth of a child of the same sex) (Watt and Breyer-Brandwijk 1962). In other regions of South Africa, tea made with the bark (250ml bark pieces boiled in three litres water for three hours, cooled, strained and bottled), is administered in small doses in treatment of diarrhoea, dysentery, malaria, gonorrhoea and abdominal upsets (Roberts 1990). Dosage for diarrhoea and dysentery is 300ml (Hutchings *et al.* 1996). It is also used as a prophylactic and in therapy of malaria; bark is gathered in spring prior to budding, preserved in brandy and taken in small doses three to six times daily (Roberts 1990). Alternatively, the bark is powdered and 5ml doses taken in water twice daily (Roberts 1990). Although medical tests have shown this to be an ineffective medicine, it is highly reputable (Roberts 1990). Among its many purposes are popular remedies for diabetes, fever and malaria. Inner bark is boiled and applied as a poultice to ulcers, smallpox and skin eruptions (Roberts 1990). In Venda, it is used to reduce fever, treat stomach complaints, headaches, ulcers, toothache, backache and infertility (Mabogo 1990 cited in Hutchings *et al.* 1996). In Swaziland, 50g bark is ground with the same quantity of *Schotia brachypetala* bark, added to five litres warm water, and taken in

250ml doses as an emetic; a five litre mixture prepared similarly is boiled for steaming to treat painful shoulders as necessary (Amusan *et al.* 2002).

**CONSERVATION** Mander (1998) ranked it tenth among the medicinal species most frequently demanded by consumers in KwaZulu-Natal.

### ***Scolopia mundii***

**FAMILY** Flacourtiaceae

**AUTHORITY** (Eckl. & Zeyh.) Warb.

**SYNONYMS** *Eruidaphus mundii* Eckl. & Zeyh., *Phoberos mundii* (Eckl. & Zeyh.) Harv.

**ENGLISH/AFRIKAANS** mountain saffron (E), red pear (E), bergsaffraan (A), klipdoring (A), rooipeer (A)

**ZULU** idungamuzi-lehlali, ihambahlala, ihlambahlale, ingqumuza, uloyiphela, umdwendwelencuba

**DESCRIPTION** Grey to brown, smooth or flaking (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** May be responsible for fatal and near fatal poisoning cases, in which patients exhibited abdominal pain, vomiting and unconsciousness (Watt and Breyer-Brandwijk 1962).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Cunningham 1988). Udwendewe iwengcuba refers to herbalists' medicine for heart complaints (Doke and Vilakazi 1972 cited in Hutchings *et al.* 1996).

### ***Sideroxylon inerme***

**FAMILY** Sapotaceae

**AUTHORITY** L.

**SYNONYMS** *Sideroxylon diospyroides* Baker

**ENGLISH/AFRIKAANS** milkweed (E), white milkwood (E), sea oak (E), melkbessie (A), melkhout (A), witmelkhout (A)

**ZULU** amasethole, amasethole-amhlope, umakwela finqane, umakhwelafingqane, umaphipha, umbhobe, umbobe, umhlahle

**DESCRIPTION** Grey-brown to black, thick and cracking in squares with maturity; immature branches covered in soft grey to rust-coloured hairs (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Latex exuded from the bark is acrid (Watt and Breyer-Brandwijk 1962). Compounds elucidated in the bark include cinnamic acid, kaemperfol and leucanthocyanins (Hutchings *et al.* 1996).

**USE IN KWAZULU-NATAL** Rootbark is cooked and approximately 250ml administered as an enema to induce excessive perspiration (Gerstner 1941 cited in Hutchings *et al.* 1996). An infusion is taken to dispel bad dreams (Watt and Breyer-Brandwijk 1962). Bark is emetic (Watt and Breyer-Brandwijk 1962).

**USE IN SOUTHERN AFRICA** Used in Xhosa ethnoveterinary medicine to treat gallsickness in livestock (Watt and Breyer-Brandwijk 1962). It is used extensively in the skin-lightener trade in the Eastern Cape Province of South Africa (La Cock and Briers 1992).

**CONSERVATION** Ranked among the most frequently demanded medicinal plant species in KwaZulu-Natal (Mander 1998).

**ADDITIONAL INFORMATION** Von Breitenbach *et al.* (2001) recognised *S. inerme* L. ssp. *inerme*.

### ***Spirostachys africana***

**FAMILY** Euphorbiaceae

**AUTHORITY** Sond.

**ENGLISH/AFRIKAANS** African sandalwood (E), Cape sandalwood (E), headache tree (E), jumping-bean tree (E), tamboti (E), gifboom (A), melkhout (A), sandalbeen (A), sandelhout (A), tambotie (A), tambotiebeen (A)

**ZULU** injuqu, ubanda, umthombothi

**DESCRIPTION** Dark grey to black, rough and flaking in rectangular pieces; milky latex is exuded (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Contains exoecarin

(Watt and Breyer-Brandwijk 1962). Milky latex secreted by the plant is extremely toxic; contact causes acute irritation of the skin, pain and damage to the eyes (Coates Palgrave 2002). All plant parts are toxic and administration may result in fatality (Van Wyk and Gericke 2000). One drop of latex results in purging and vomiting; cow's milk is reportedly an effective antidote to irritations caused by the latex and sap (Hutchings *et al.* 1996).

**USE IN KWAZULU-NATAL** Infusions are used in small dosages for stomach ulcers and as eye washes (Palmer and Pitman 1973). Decoctions of powdered bark are taken for stomach ulcers and mielie meal or porridge oats to make a thin gruel, and 250ml taken three times daily on an empty stomach, with no other liquid drunk for a while thereafter (Hutchings *et al.* 1996). Dried bark is used in embrocations for rashes in infants (Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** In southern Africa, weak bark infusions may be used as purgatives for constipation and kidney disease, or powdered bark is taken as a purgative (Watt and Breyer-Brandwijk 1962). However, all plant parts are toxic and may result in damage to internal organs, or fatality (Venter and Venter 1996, Van Wyk and Gericke 2000). Stembark or rootbark infusions are used to treat renal ailments and to purify the blood (Hutchings *et al.* 1996). In Swaziland, 50g bark is ground and added to 5 litres warm water and the decoction taken twice daily for three days to relieve constipation (Amusan *et al.* 2002). Alternatively, 50g bark is ground with the same quantity of *Trichilia emetica* bark, and boiled for 10 minutes in 5 litres water to treat constipation (Amusan *et al.* 2002).

**CONSERVATION** In Mpumalanga Province, the bark is in high demand but readily available; it is sold for approximately R25 kg<sup>-1</sup> (Botha *et al.* 2001).

#### *Strychnos decussata*

**FAMILY** Loganiaceae

**AUTHORITY** (Pappe) Gilg

**ENGLISH/AFRIKAANS** Cape teak (E), Chaka's wood (E), Panda's walking stick tree (E), Kaapse kiaat (A), kiaat (A)

**ZULU** inama, umgangele, umhlamahlala, umkhangala, umkhombazulu, umlahlankosi, umpathankosi, umpathankosi-omhlope, umpathawenkosi

**DESCRIPTION** Dark grey, smooth but with prominent light brown lenticels; branchlets also have conspicuous lenticels and a waxy layer that splits longitudinally and peels (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Reputedly toxic, especially when green (Coates Palgrave 2002). Members of the Loganiaceae are rich in alkaloids of the indole and oxindole groups, and contain the aucubin glycoside loganin, and iridoids (Trease and Evans 1983). Alkaloids elucidated from the stembark of *S. decussata* exhibit muscle relaxant properties; bark extracts have similar effects (Hutchings *et al.* 1996).

**USE IN KWAZULU-NATAL** Rootbark is scraped and powdered, and a pinch taken as snuff, or taken in water for stomach complaints and cramps (Palmer and Pitman 1973).

#### *Strychnos henningsii*

**FAMILY** Loganiaceae

**AUTHORITY** Gilg

**ENGLISH/AFRIKAANS** coffee bean strychnos (E), coffee hard pear (E), Natal teak (E), red bitterberry (E), hardepeer (A), hardepeerhout (A), koffie-hardepeer (A), rooi-bitterbessie (A)

**ZULU** manono, umanana, umdunye, umnono, umqalothi, umqaloti

**DESCRIPTION** Pale grey or yellow-grey and smooth, becoming dark brown, flaky and mottled; branchlets have a waxy layer, which splits longitudinally and peels (Van Wyk *et al.* 1997, Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Induces responses similar to strychnine in rabbits; MLD is 20–50g kg<sup>-1</sup> (Watt and

Breyer-Brandwijk 1962). Members of the Loganiaceae are rich in alkaloids of the indole and oxindole groups, and contain the aucubin glycoside loganin, and iridoids (Trease and Evans 1983). Alkaloid fractions induced symptoms similar to strychnine poisoning in mice (Ogeto *et al.* 1984 cited in Hutchings *et al.* 1996). Alkaloids are concentrated in the bark, and many have been isolated (Hutchings *et al.* 1996). Stembark alkaloids have shown convulsive, hypotensive and cardiac depressant activity, due to their effect on the Central Nervous System (CNS), and anti-cancer potential (Cunningham 1988, Hutchings *et al.* 1996). Extracts of a mixture of stem- and rootbark showed no muscle-relaxant or convulsive activity (Hutchings *et al.* 1996).

**USE IN KWAZULU-NATAL** Powdered bark is taken in 10ml doses in the same volume of cold water for nausea (Watt and Breyer-Brandwijk 1962, Hutchings *et al.* 1996), or chewed for stomach complaints (Doke and Vilikazi 1972 cited in Hutchings *et al.* 1996). Decoctions also containing the roots of *Turrea floribunda* are used to relieve the pain associated with rheumatic fever (Hutchings *et al.* 1996). The bark of umqalothi, possibly *S. henningsii*, is used in the treatment of dysmenorrhoea (Hutchings *et al.* 1996).

**USE IN SOUTHERN AFRICA** Used to treat schistosomiasis (Pujol 1990). In Pondoland, it is taken as a bitter appetiser (Hutchings *et al.* 1996). The barks of several *Strychnos* spp. are used for snakebite antidotes throughout southern Africa (Van Wyk *et al.* 1997).

**CONSERVATION** Coppices well (75% of cut stems) (Muir 1990).

#### *Synadenium cupulare*

**FAMILY** Euphorbiaceae

**AUTHORITY** (Boiss.) L.C.Wheeler

**SYNONYMS** *Synadenium arborescens* Boiss.

**ENGLISH/AFRIKAANS** crying tree (E), dead-man's tree (E), dooimansboom (A), gifboom (A)

**ZULU** umbulele, umdlebe, umdlebe-omnacane, umdletshane, umzilanyone

**DESCRIPTION** Green to grey-green and smooth (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** *S. cupulare* is extremely toxic, and the latex irritant (Bryant 1909 cited in Cunningham 1988).

**USE IN KWAZULU-NATAL** The bark is employed in a potent sorcery charm (Watt 1967 cited in Hutchings *et al.* 1996).

#### *Syzygium cordatum*

**FAMILY** Myrtaceae

**AUTHORITY** Hochst. ex Sond.

**ENGLISH/AFRIKAANS** umdoni (E), water-berry (E), water-tree (E), water-wood (E), umdoni (A), waterbessie (A), waterhout (A)

**ZULU** umdoni

**DESCRIPTION** Pale grey to dark grey or brown, corky, rough and fissured (Van Wyk *et al.* 1997, Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** The bark and wood contain proanthocyanidins, pentacyclic triterpenoids, ellagic acid, gallic acid and derivatives thereof (Candy *et al.* 1968 cited in Van Wyk *et al.* 1997). Phenolics may be responsible for antidiarrhoeal properties (Bruneton 1995).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Cunningham 1988).

**USE IN SOUTHERN AFRICA** The Vhavenda use it to treat headaches, amenorrhoea and wounds (Mabugo 1990 cited in Hutchings *et al.* 1996). It is widely used elsewhere in southern Africa to treat stomach complaints, diarrhoea, and as an emetic (Van Wyk and Gericke 2000). It is also used to treat respiratory ailments such as tuberculosis (Watt and Breyer-Brandwijk 1962, Van Wyk *et al.* 1997).

***Syzygium gerrardii***

FAMILY Myrtaceae

AUTHORITY (Harv. ex. Hook.f.) Burt Davy

SYNONYMS *Szyszygium fourcadei* (Duemmer) Burt Davy, *S. guineense* (Willd.) DC. ssp. *gerrardii* (Harv. ex Hook.f.) F.White

ENGLISH/AFRIKAANS forest water-berry (E), forest water-peer (E), forest water-wood (E), wild myrtle (E), bos-waterbessie (A), bos-waterhout (A), bos-waterpeer (A), vaderlandswilgerboom (A)

ZULU isifecane, umdlumuthwa, umdoni, umdoni wehlathi, umdunywana, umdunwana

DESCRIPTION Pale, silver-grey and smooth (Coates Palgrave 2002).

PHYTOCHEMICAL/PHYSICAL PROPERTIES Contains up to 16.7% tannins (Watt and Breyer-Brandwijk 1962).

USE IN KWAZULU-NATAL Infusions are used to treat tuberculosis and other chest ailments to ease chest pains and coughs (Watt and Breyer-Brandwijk 1962).

USE IN SOUTHERN AFRICA Infusions are used to remedy chest complaints and are said to relieve chest pain and coughs (Watt and Breyer-Brandwijk 1962, Coates Palgrave 2002).

***Tabernaemontana ventricosa***

FAMILY Apocynaceae

AUTHORITY Hochst. ex A.DC.

SYNONYMS *Conopharyngia ventricosa* (Hochst. ex A.DC.) Stapf.

ENGLISH/AFRIKAANS forest toad tree (E), small-fruited toad tree (E), toad tree (E), bos-paddaboom (A), paddaboom (A)

ZULU umkhadlu, umkahlulu, umkhalwana, umkhamamasane

DESCRIPTION Grey to pale brown, smooth (Coates Palgrave 2002).

PHYTOCHEMICAL/PHYSICAL PROPERTIES Cyanogenetic glycosides, leucoanthocyanins, saponins, tannins, coumarins, phenolic acids, cyclitols and triterpenoids are typical constituents of the Apocynaceae (Trease and Evans 1983). Alkaloids isolated from the stem bark include the major compounds 10-hydroxyheptanamine and akuammicine (Schripsema *et al.* 1986 cited in Hutchings *et al.* 1996). Extracts do not show antimalarial properties *in vitro* (Watt and Breyer-Brandwijk 1962).

USE IN KWAZULU-NATAL Used to treat fever (Pooley 1993).

***Tecomaria capensis***

FAMILY Bignoniaceae

AUTHORITY (Thunb.) Spach

SSP TAXON ssp. *capensis*SYNONYMS *Bignonia capensis* Thunb., *Tecoma capensis* (Thunb.) Lindl.

ENGLISH/AFRIKAANS Cape honeysuckle (E), tecoma (E), trumpetters (E), Kaapse kamperfolie (A), Kaapse kanferfolie (A), kanferfolie (A), trompetters (A)

ZULU lungana, uchahacha, umunyane

DESCRIPTION Pale brown, fissured and marked by lenticels (Coates Palgrave 2002).

PHYTOCHEMICAL/PHYSICAL PROPERTIES McGaw *et al.* (2000) reported antibacterial activity of polar extracts against *Staphylococcus aureus*.

USE IN KWAZULU-NATAL Dried bark is powdered and infused for medicines against fever, pain, sleeplessness, chest ailments, diarrhoea, dysentery and stomach-ache (Roberts 1990).

USE IN SOUTHERN AFRICA In southern Africa, powdered bark is used to treat influenza and pneumonia (Watt and Breyer-Brandwijk 1962, Venter and Venter 1996), or rubbed on bleeding gums to promote blood coagulation (Van Wyk and Gericke 2000). The Sotho use powdered bark to treat abdominal complaints, fever and pneumonia (Watt and Breyer-Brandwijk 1962).

***Trema orientalis***

FAMILY Ulmaceae

AUTHORITY (L.) Blume

SYNONYMS *Trema guineensis* (Schumach. & Thonn.) Fical.

ENGLISH/AFRIKAANS pigeonwood (E), hophout (A)

ZULU ifamu, iphubane, isakasaka, isikhwelamfene, sakasaka, ubathini, umbengele, umbhangabhanga, umbokhangabokhanga, umcebekhazana, umdindwa, umsekeseke, umvangazi

DESCRIPTION Pale grey and smooth (Coates Palgrave 2002).

PHYTOCHEMICAL/PHYSICAL PROPERTIES Several compounds, including tannins, have been isolated (Hutchings *et al.* 1996). Handling may cause eczema (Hutchings *et al.* 1996). McGaw *et al.* (2000) reported minor anthelmintic activity of extracts.USE IN KWAZULU-NATAL Used for unspecified purposes (Hutchings *et al.* 1996).

CONSERVATION Vulnerable in Namibia (Craven and Loots 2002).

***Trichilia dregeana***

FAMILY Meliaceae

AUTHORITY Sond.

SYNONYMS *Trichilia chirindensis* Swynn. & Baker.f.

ENGLISH/AFRIKAANS Cape mahogany, forest mahogany (E), Natal forest mahogany (E), bos rooi-essenhout (A)

ZULU ixolo, umathunzini, umkhula, umkhuhlu

DESCRIPTION Grey and smooth (Coates Palgrave 2002).

PHYTOCHEMICAL/PHYSICAL PROPERTIES The bark is extremely toxic (Bryant 1909 cited in Cunningham 1988). Many so-called trichilin liminoids have been isolated from the seed oil and root bark (Nakatani *et al.* 1981 cited in Van Wyk *et al.* 1997). Jäger *et al.* (1996) reported *in vitro* anti-inflammatory activity.USE IN KWAZULU-NATAL Infusions are administered by enema to treat dysentery, lumbago, and rectal ulceration in paediatric cases (Watt and Breyer-Brandwijk 1962). The bark of an unidentified *Trichilia* is used to decrease milk production in heavily lactating women; powdered bark is rubbed into incisions made on the breasts (Watt and Breyer-Brandwijk 1962).USE IN SOUTHERN AFRICA Used for stomach and intestinal complaints, and as a purgative administered by enema, in unspecified regions of southern Africa (Bryant 1909 cited in Cunningham 1988). To treat dysentery, an enema is used, or powdered bark administered directly into the anus (Watt and Breyer-Brandwijk 1962) The Xhosa use decoctions of powdered bark to treat backache symptomatic of renal disorders (Hutchings *et al.* 1996). Medicine is prepared with 5ml powdered bark in 250ml cow's milk, cooled and strained, and 125ml administered by enema in the morning (oral administration may be toxic); excessive purging as a result of the treatment may be countered by drinking cow's milk (Hutchings *et al.* 1996). Bark decoctions are similarly used in Venda, and to treat stomach complaints and purify the blood (Mabogo 1990 cited in Hutchings *et al.* 1996). In Zimbabwe, bark is used as a purgative and abortifacient (Gelfand *et al.* 1985).CONSERVATION A 50kg-sized bag of an unidentified *Trichilia* bark cost R10 from gatherers at Isipingo medicinal plant market, KwaZulu-Natal (Cunningham 1988)***Trichilia emetica***

FAMILY Meliaceae

AUTHORITY Vahl

SSP TAXON ssp. *emetica*SYNONYMS *Trichilia natalensis* Sond., *T. roka* Chiov.

ENGLISH/AFRIKAANS bushveld Natal mahogany, Cape mahogany (E), Christmas bells, Natal mahogany (E), red ash (E), thunder tree (E), basteresshout (A), baster-essenhout (A), bosveld rooi-essenhout (A), rooi-essenhout (A)

ZULU ixolo, umathunzini, umkhuhlu, umkhuhlu

DESCRIPTION Dark grey to grey-brown, becoming slightly rough



(Van Wyk *et al.* 1997, Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** It is extremely toxic (Bryant 1909 cited in Cunningham 1988, Watt and Breyer-Brandwijk 1962). It contains resins and tannins; a bitter principle has been elucidated in the rootbark (Watt and Breyer-Brandwijk 1962). Many so-called trichilin liminoides have been isolated from the rootbark (Nakatani *et al.* 1981 cited in Van Wyk *et al.* 1997). Enemas made with all plant parts are said to result in sweating and vomiting, and may be fatal, yet bark is not toxic to guinea pigs (Hutchings *et al.* 1996). Purgative effects of the bark may be attributable to resin content (Jamieson 1916 cited in Hutchings *et al.* 1996).

**USE IN KWAZULU-NATAL** Bark is powdered and decocted in 500ml hot water and administered as enemas for stomach or intestinal complaints (Bryant 1966 cited in Hutchings *et al.* 1996). Infusions are used for lumbago, rectal ulceration in children, and dysentery (Watt and Breyer-Brandwijk 1962). The bark of an unidentified *Trichilia* is used to decrease milk production in heavily lactating women; powdered bark is rubbed into incisions made on the breasts (Watt and Breyer-Brandwijk 1962).

**USE IN SOUTHERN AFRICA** In Venda, decoctions are administered as enemas to treat renal ailments and intestinal parasites; enemas are further used to cleanse the digestive tract and blood (Hutchings *et al.* 1996). To treat dysentery, enemas or powdered bark administered directly into the anus, are used (Watt and Breyer-Brandwijk 1962). In Zimbabwe, it is used as an abortifacient (Gelfand *et al.* 1985). In Swaziland, 50g bark is ground with the same quantity of *Spirostachys africana* Sond. bark, and boiled for 10 minutes in 5 litres water to treat constipation (Amusan *et al.* 2002). To treat backache, a single dose of 30g bark boiled in a litre of water for one hour, is administered by enema (Amusan *et al.* 2002).

**CONSERVATION** A 50kg-sized bag of an unidentified *Trichilia* bark cost R10 from gatherers at Isipingo medicinal plant market, KwaZulu-Natal (Cunningham 1988).

#### ***Turraea floribunda***

**FAMILY** Meliaceae

**AUTHORITY** Hochst.

**SYNONYMS** *Turraea heterophylla* sensu Sond.

**ENGLISH/AFRIKAANS** honeysuckle tree (E), wild honeysuckle tree (E), kanferfolieboom (A), wilde-kamperfoelieboom (A)

**ZULU** ubhugulo, ululame, umadlozana, umadlozane, umhulana, umlulama, umlulama-omncane, umuthi wokuzila, umvuma, uvuma (root)

**DESCRIPTION** Variable shades of brown and rough; immature branchlets are velvet-textured and red- to purple-brown (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** High dosages are reputedly toxic (Coates Palgrave 1977). Three liminoids have been isolated (Mulholland 1996).

**USE IN KWAZULU-NATAL** Taken in emetic medicines to prevent fearful dreams that are symptomatic of cardiac weakness (Bryant 1966 cited in Hutchings *et al.* 1996). It is used as an emetic by traditional healers in preparation for dances (Watt and Breyer-Brandwijk 1962).

**USE IN SOUTHERN AFRICA** Used to treat rheumatism, dropsy and heart disease, and taken by diviners to induce a trance (Coates Palgrave 1977).

**CONSERVATION** Ranked among the most frequently demanded medicinal species in KwaZulu-Natal (Mander 1998). It may regenerate by coppice (Muir (1990) reported 53% of cut stems produced coppice shoots in the Hlatikulu Forest Reserve, Maputaland).

#### ***Turraea obtusifolia***

**FAMILY** Meliaceae

**AUTHORITY** Hochst.

**SYNONYMS** *Turraea oblancifolia* Brem., *T. obtusifolia* Hochst. var. *matopensis* Baker.f., *T. obtusifolia* Hochst. var. *microphylla* C.DC.

**ENGLISH/AFRIKAANS** lesser honeysuckle tree (E), small honeysuckle tree (E), wild honeysuckle (E), kleinkamperfoelieboom (A)

**ZULU** amazulu, ikhambi-lomsinga (root), ikunzi (root), ikunzi ebomvana, inkunzi (root), inswazi, umhlatholana (leaves/stem), umhlatholana (leaves/stem), uswazi (leaves, stem, root)

**DESCRIPTION** Grey-brown, smooth and marked by lenticels; young shoots finely pubescent (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** An infusion of root- or stembark, prepared with a handful of bark and approximately 600ml hot water, is diluted and administered by enema to treat stomach and intestinal complaints. Thereafter more infusion is taken in warm porridge (Bryant 1966 cited in Hutchings *et al.* 1996). Infusions are taken to treat stomach and intestinal complaints, and as a 'drastic' purgative (Watt and Breyer-Brandwijk 1962). This demands 'caution' to treat, as it is strongly cathartic (Cunningham 1988).

**CONSERVATION** Ranked among the most frequently demanded medicinal species in KwaZulu-Natal (Mander 1998).

#### ***Vitellariopsis dispar***

**FAMILY** Sapotaceae

**AUTHORITY** (N.E.Br.) Aubrév.

**SYNONYMS** *Austromimusops dispar* (N.E.Br.) Meeuse, *Mimusops dispar* N.E.Br.

**ENGLISH/AFRIKAANS** Tugela bush milkwood (E), Tugela milkwood (E), Tugelabastermelkhout (A), Tugela-bosmelkhout (A)

**ZULU** umpumbulu, umphumbulu, pamkhulu

**DESCRIPTION** Pale grey and rough (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** The rootbark is used for unspecified purposes (Hutchings *et al.* 1996).

**CONSERVATION** Lower risk status in KwaZulu-Natal (Scott-Shaw 1999); endangered in Swaziland (Dlamini and Dlamini 2002).

#### ***Vitex obovata***

**FAMILY** Verbenaceae

**AUTHORITY** E.Mey.

**SSP TAXON** ssp. *wilmsii* (Guerke) C.L.Bredenkamp

**SYNONYMS** *Vitex reflexa* H.Pearson, *V. wilmsii* Guerke, *V. wilmsii* var. *reflexa* (H.Pearson) W.Piep.

**ENGLISH/AFRIKAANS** hairy fingerleaf (E), hairy vitex (E), harige vingerblaar (A)

**ZULU** umluthu

**DESCRIPTION** Pale to dark grey or grey-brown, rough, fissured; immature branches are densely pubescent (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Infusions are used as purifying emetics when a kraal member is dying (Hutchings *et al.* 1996).

#### ***Warburgia salutaris***

**FAMILY** Canellaceae

**AUTHORITY** (G.Bertol.) Chiov.

**SYNONYMS** *Warburgia breyeri* Pott

**ENGLISH/AFRIKAANS** fever tree (E), pepper-bark (E), pepper-bark tree (E), pepper-leaf tree (E), pepper-root tree (E), koorsboom (A), peperbasboom (A), peperblaarboom (A), sterkbos (A)

**ZULU** amazwecehlabayo, isibaha, isibhaha

**DESCRIPTION** Deep brown, rough and marked with yellow corky lenticels; inner bark red-toned; bark on immature branches grey and smooth (Venter and Venter 1996, Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Tannins, mannitol, and several drimane sesquiterpenoids, notably warburganol and polygodial, are present in the bark (Watt and Breyer-Brandwijk 1962). Mannitol is used against dyspepsia and as a diuretic (Bruneton 1995). Warburganol, which shows molluscicidal, insect antifeedant, haemolytic and cytotoxic properties, may be responsible for the potent toxicity of inner bark extracts (Hutchings *et al.* 1996). Molluscicidal activity has been attributed to muzigadial, warburganol and mukadiaal (Clark and Appleton 1997). Drimenin has insect antifeedant properties (Hutchings *et al.* 1996); drimanes show anti-

bacterial and anti-ulcer activity (Van Wyk *et al.* 1997). Sesquiterpenoid dialdehydes elucidated exhibit potent antifungal activity (Hutchings *et al.* 1996). Muzigadial, a sesquiterpenoid, was isolated as the compound responsible for antibacterial activity (Rabe and Van Staden 1997, 2000). Stem- and rootbark have yielded negative results for *in vitro* antimalarial tests (Watt and Breyer-Brandwijk 1962). Extracts have shown *in vitro* anti-inflammatory activity (Jäger *et al.* 1996). Phytochemical profiles of immature and mature bark are very similar to those of leaves and twigs (Zschocke and Van Staden 2000). The inner bark has a bitter and pepper- or ginger-like flavour, and a cinnamon-like odour (Coates Palgrave 1977, Hutchings *et al.* 1996), for which amorphous resinous compounds are responsible (Venter and Venter 1996). George *et al.* (2001) noted it is a potentially commercial source of warburganol, polygodiol, drimane sesquiterpenoid lactone and mannitol, for decongestant, emenagogue, anti-bacterial and anti-ulcerative properties.

**USE IN KWAZULU-NATAL** Powdered and taken in approximately 5ml water for a dry cough, or mixed with *Cannabis sativa* L. leaves and smoked (Bryant 1966 cited in Hutchings *et al.* 1996). Decoctions are similarly taken to treat colds, influenza, sinus and other respiratory complaints (Rabe and Van Staden 2000). It is also used in emetics and purgatives for febrile complaints, rheumatism and ailments induced by sorcery (intercostal neuralgia but possible rheumatism or symptoms of hepatic disease) (Hutchings *et al.* 1996). Mander *et al.* (1995) reported it an ingredient of antimalarial medicines. Powdered bark is mixed with any kind of fat and the ointment applied topically to treat inflammation, sores and skin irritations (Rabe and Van Staden 2000). It is used for symptomatic treatment of the common cold, may be dried and powdered as a snuff to clear sinusitis, and is chewed or smoke inhaled to relieve chest complaints (Coates Palgrave 1977). Powdered bark is applied topically to incisions on the temples to relieve headache, and also used as an aphrodisiac (Van Wyk *et al.* 1997).

**USE IN SOUTHERN AFRICA** In southern Africa, *W. salutaris* is an important ingredient in tonics for many health conditions, including fever, malaria, colds and influenza, as a cough expectorant and an antibiotic to treat chest infections, venereal diseases, abdominal pain, constipation, stomach ulcers, cancer and rheumatism (Van Wyk and Gericke 2000). It has been used as an abortifacient in Zimbabwe (Gelfand *et al.* 1985). Powdered bark may be decocted and taken in porridge to relieve abdominal pains (Venter and Venter 1996). In Venda, it is used to make dogs and bees more alert and aggressive (Mabogo 1990 cited in Hutchings *et al.* 1996).

**CONSERVATION** *W. salutaris* is endangered in KwaZulu-Natal, and specially protected (Hilton-Taylor 1996, Scott-Shaw 1999). Heavy exploitation was noted by Gerstner in 1938 (Cunningham 1988); Coates Palgrave (1977) noted that bark was in such high demand that material was becoming scarce, and was costly to purchase. Market supplies are smuggled into South Africa from Swaziland and Mozambique despite concerns for its survival in those countries too (Drewes *et al.* 2001). Due to over-collection, it is endangered in Malawi (Msekandiana and Mlangeni 2002), vulnerable in Mozambique (Izidine and Bandiera 2002), and critically endangered in Namibia (Craven and Loots 2002) and Zimbabwe (Mapaura and Timberlake 2002). It is globally vulnerable to extinction (Hilton-Taylor 1996). Cunningham (1988) noted that both rural and urban herb traders in KwaZulu-Natal nominated it as the most scarce medicinal plant. It is similarly perceived as scarce on the Witwatersrand (Williams 2000), Limpopo (Northern Province), where bark costs on average R1 250 kg<sup>-1</sup>, and Mpumalanga Province, where bark costs on average R1 012 kg<sup>-1</sup> (Botha *et al.* 2001). In contrast, a 50kg-sized bag of bark cost R5 in 1960, and R120 from gatherers at Isipingo medicinal plant market, KwaZulu-Natal, in 1988 (Cunningham 1988). Drewes *et al.* (2001) reported that bark cost R17 kg<sup>-1</sup> from street traders, and R31 kg<sup>-1</sup> from shop retailers, in the province. Mander (1998) ranked it the third most frequently demanded medicinal species in KwaZulu-Natal; this ranking

is influenced by its occurrence in the forest and grassland/woodland biomes. *W. salutaris* may be cultivated from seed but is more readily propagated from root suckers. It is particularly resilient to harvesting pressure, and may exhibit regrowth after complete bark removal (Cunningham and Mbenkum 1993). As a result of local extinctions in KwaZulu-Natal, the question of reintroduction has been raised, but controversy surrounds reintroduction of local clonal material or foreign (from Kenya, Tanzania and other African countries) seed (Berjak 2002 pers. comm.). Substitution of leaves for bark in traditional medicines is advocated by conservationists and has been validated by phytochemical investigations (Zschocke *et al.* 2000b, Drewes *et al.* 2001).

### *Ximenia americana*

**FAMILY** Olacaceae

**AUTHORITY** L.

**SSP TAXON** var. *americana* Welw.

**SYNONYMS** *Ximernia americana* L. var. *microphylla* Welw., *X. rogersii* Burt Davy

**ENGLISH/AFRIKAANS** American hogplum (E), blue sourplum (E), small sourplum (E), blou-suurpruim (A), doringpruim (A), kleinsuurpruim (A)

**ZULU** ukolotshane, umkholotshwana, umthunduluka-omncane, umtunduluka-omncane

**DESCRIPTION** Grey, smooth to rough (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Extracts exhibit hypotensive and antiviral effects, but not antibacterial activity (Hedberg and Staugard 1989 cited in Hutchings *et al.* 1996).

**USE IN KWAZULU-NATAL** Used for unspecified purposes (Pooley 1993).

**USE IN SOUTHERN AFRICA** Used to treat paediatric patients (Coates Palgrave 2002). In Swaziland, 50g each of bark and roots are powdered and added to a litre of warm water, and one drop administered daily to the eye to treat eye complaints (Amusan *et al.* 2002).

**CONSERVATION** Low risk in Namibia (Craven and Loots 2002).

### *Xymalos monospora*

**FAMILY** Trimeniaceae

**AUTHORITY** (Harv.) Baill.

**ENGLISH/AFRIKAANS** bog-a-bog (E), lemonwood (E), borriehout (A), lemoenhout

**ZULU** bokoboko, ithotshe, umhlungwane, umhlwehlwe, umzinkulu, uvethe, uvetho

**DESCRIPTION** Pale grey-brown to brown, flaking, and characteristically marked with concentric shapes (Coates Palgrave 2002).

**USE IN KWAZULU-NATAL** Powdered bark is used to treat colic (Watt and Breyer-Brandwijk 1962).

**CONSERVATION** Hutchings *et al.* (1996) reported that it is apparently not collected in Afro-montane forests where it is common.

### *Zanthoxylum capense*

**FAMILY** Rutaceae

**AUTHORITY** (Thunb.) Harv.

**SYNONYMS** *Fagara capensis* Thunb., *F. magalismontana* Engl.

**ENGLISH/AFRIKAANS** adelaide spice tree (E), fever tree (E), cardamon (E), small knobwood (E), wild cardamon (E), kardamon (A), klein-perdepram (A), knopdoring (A), knoppiesdoring (A), lemoendoring (A), prambos (A), pramdoring (A), wilde-kardemon (A)

**ZULU** amabelentombi, amabelezintshingezi, isimungumabele, isinungwane, manungwane, anungwane, umhlungumabele, umlungumabele, umnungumabele, umnungwane, umnungwane omncane

**DESCRIPTION** Grey, smooth, with characteristic cone-shaped knobs tipped (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** May contain sanguirine or related alkaloids (Van Wyk and Gericke 2000); sanguirine

has anti-inflammatory and anti-plaque activity (low concentrations bind selectively to dental plaque and effectively inhibit bacterial growth) (Van Wyk and Gericke 2000). Sanguirine is used in commercial toothpastes and oral rinses (Van Wyk and Gericke 2000, Bruneton 1995). Decoctions have an unpleasant odour, and administration is reputed to cause excessive sweating (Hutchings *et al.* 1996).

**USE IN KWAZULU-NATAL** Rootbark is an ingredient in decoctions known as imbhiza, taken orally to purify the blood (Watt and Breyer-Brandwijk 1962), as a steam bath to treat scrofula, or an enema for stomach complaints (Hutchings *et al.* 1996). Dried, ground rootbark is applied directly to relieve toothache (Hutchings *et al.* 1996). Powdered stembark is rubbed into incisions along either side of the body for two days to treat paralysis; the patient may also suck a decoction from the fingertips, and then tap the affected joints (Hutchings *et al.* 1996). It is also used as a snakebite antidote (Watt and Breyer-Brandwijk 1962). See Trease and Evans (1983).

**USE IN SOUTHERN AFRICA** In South Africa it is used in a tonic for blood conditions (bark is scraped, pounded and chewed or made into a tea) (Roberts 1990). A tea of 60ml pounded bark in 500ml boiling water, taken in 125ml doses up to three times daily, is used for acne and skin eruptions (Roberts 1990). It is also used as an antidote for snakebite: pieces of bark are chewed and swallowed at 15 minute intervals until the swelling subsides. The victim is kept warm and held still while crushed and pounded bark is applied to the bite (Roberts 1990). A dressing of powdered bark, or chewed pieces, is used to relieve toothache (Roberts 1990), and infusions are used as mouthwashes and toothache remedies (Van Wyk and Gericke 2000). It is also used in medicines for tuberculosis, chronic coughs, bronchitis, paralysis and epilepsy (Roberts 1990). The bark and leaves are used together to treat anthrax (Roberts 1990), and gall sickness in cattle (Venter and Venter 1996).

**CONSERVATION** Germinates readily in plantations of the exotic *Acacia melanoxylon* R.Br. (Cunningham 1988).

#### **Zanthoxylum davyi**

**FAMILY** Rutaceae

**AUTHORITY** (I.Verd.) P.G.Waterman

**SYNONYMS** *Fagara davyi* Verdoorn

**ENGLISH/AFRIKAANS** forest knobwood (E), fever tree (E), knobthorn (E), knobwood (E), bos-perdepram (A), knoppiesdoring (A), perdepram (A), wilde-kardemon (A)

**ZULU** isimungumabele, isinungwane, manungwane, umanungwane, umlungumabele, umnungamabele, umnungumabele, umnungwane, omkhulu

**DESCRIPTION** Pale grey, becoming dark brown with maturity, with conspicuous knobs (Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Contains resin (Watt and Breyer-Brandwijk 1962). See Trease and Evans (1983).

**USE IN KWAZULU-NATAL** Powdered bark is cooked and chewed at frequent intervals to relieve severe coughs and colds (Watt and Breyer-Brandwijk 1962). Rootbark is used as a tonic in that is also used in ethnoveterinary medicine (Watt and Breyer-Brandwijk 1962).

**USE IN SOUTHERN AFRICA** The Pondo use it as a snakebite antidote: it is rubbed into the bite wound, and taken as an emetic (Watt and Breyer-Brandwijk 1962). It is similarly used by the Venda, and in treatment of chronic coughs, toothache, pleurisy and boils (Mabogo 1990 cited in Hutchings *et al.* 1996).

**CONSERVATION** Indeterminate conservation status in KwaZulu-Natal (Cunningham 1988). Endangered in Zimbabwe (Mapaula and Timberlake 2002).

#### **Ziziphus mucronata**

**FAMILY** Rhamnaceae

**AUTHORITY** Willd.

**SYNONYMS** *Ziziphus abyssinica* Willd. ssp. *mucronata*, *Z. mucronata* Willd. ssp. *rhodesica* R.B.Drumm.

**ENGLISH/AFRIKAANS** buffalo thorn (E), bogwood (E), cat-thorn (E), blinkbaar-wag-'n-bietjie (A), buffelsdoring (A), haak-en-steekwag-'n-bietjie

**ZULU** isilahla, isulahlankosi, umlahlankosi, umlahlabantu, umkhobobonga, umpafa, umphafa

**DESCRIPTION** Grey to dark grey or grey-brown, cracking in small rectangles; bark on immature branches smooth and red-brown (Venter and Venter 1996, Van Wyk *et al.* 1997, Coates Palgrave 2002).

**PHYTOCHEMICAL/PHYSICAL PROPERTIES** Contains up to 15.7% tanning matter (Watt and Breyer-Brandwijk 1962) or 12–15% tannin (Venter and Venter 1996). Several alkaloids, structurally related to the peptide alkaloids, have been identified in the stembark (e.g. mucronine D) (Tschesche *et al.* 1974 cited in Van Wyk *et al.* 1997). Members of the genus contain purgative quinones such as anthraquinones, anthranols and their glycosides (Trease and Evans 1983). Aqueous and methanolic extracts yielded negative antibacterial results in vitro (Rabe and Van Staden 1997).

**USE IN KWAZULU-NATAL** Infusions prepared with a large dish of pounded bark and approximately 1 litre hot water are taken as emetics for a chronic cough or respiratory ailments (Watt and Breyer-Brandwijk 1962, Bryant 1966 cited in Hutchings *et al.* 1996). Steam baths made with the bark are used to purify the skin (Palmer and Pitman 1973).

**USE IN SOUTHERN AFRICA** In some regions of South Africa, a tea is used for coughs, chest ailments, swollen glands, lumbago, rheumatic complaints and pains. Bark pieces are steeped in 1 litre hot water for ten minutes, allowed to cool, strained and administered in doses of approximately 125ml (Roberts 1990). The bark is widely used in southern Africa, commonly against diarrhoea, dysentery, coughs and chest problems (Van Wyk and Gericke 2000).

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