



DISTRIBUTION, USE AND ECOLOGICAL ROLES OF THE MEDICINAL PLANTS CONFINED TO FRESHWATER ECOSYSTEMS IN SOUTH AFRICA



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ROLES OF THE MEDICINAL PLANTS
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IN SOUTH AFRICA**

Report to the
Water Research Commission

by

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Executive summary

The aim of this study was to assess the current knowledge on the distribution, ecological role and use of indigenous plants utilised for medicinal purposes that occur in freshwater ecosystems. It is in support of the Department of Science and Technology (DST) 10-year Innovation Strategy and the '*Farmer to Pharma*' Grand Challenge, which focuses on unlocking the value of our biodiversity, indigenous knowledge and traditional medicine.

For the purposes of this study, the definition of freshwater ecosystems were obtained from a study initiated by SANBI (2009). This study used the Hydrogeomorphic Model as basis and was the author's opinion that this model would give a good indication of plant habitat. Plants utilised for medicinal purposes were then classified according to this system.

In this study, emphasis was placed on the current indigenous knowledge as well as the biodiversity that represents the plants utilised for medicinal purposes. An attempt was also made to identify plants that could be subjected to more detailed biotechnological research.

A brief discussion of the relevant legislation namely the National Water Act (Act 36 of 1998) and the National Environmental Management Act (Act 107 of 1998) is included. More than 80 publications were consulted regarding the medicinal use of plants associated with freshwater ecosystems.

During a workshop held on February 15th, 2011 at the Water Research Commission (WRC) offices in Pretoria, the preliminary results of the study regarding the current knowledge on the distribution, ecological role and use of indigenous plants occurring in freshwater ecosystems, were discussed with other role players in this field (see Appendix 1).

After the workshop, a list of medicinal plants occurring in freshwater ecosystems was compiled that contains more than 200 plants species (Appendix 3). Information on habitat and ecological role was not always readily available and the author's experience in this regard was incorporated in the list. These plant species were classified according the SANBI (2009) classification. The data were analysed to determine the most important or threatened plant group and to identify the most important habitats.

Various other plant species that are suspected of having medicinal properties were also identified, but due to a lack of confirming data, they were removed from the main list, but listed in Appendix 4.

Various areas of research were identified and discussed. The most pressing short-term aim should be the protection of the wild populations of medicinal plants that can ensure long-term sustainable utilisation. The best way to achieve this is to establish holding nurseries on a regional scale where local THPs and plant gatherers can obtain stock that they can propagate themselves. This would imply that training in this regard should be provided on a national scale to prospective growers of medicinal plants.

It is concluded that the medicinal properties of plants are well documented and many research programmes are aimed to broaden this knowledge base. What is lacking is a thorough understanding of the ecological role of these plants as well as their habitat requirements.

It is also concluded that plants are harvested in the wild at an unsustainable rate. This can only be addressed by *ex situ* propagation of these plants and currently no commercial nurseries produce seedlings to support commercial propagation of indigenous medicinal plants in South Africa. *Ex situ* propagation will only succeed if the habitat of these plants is better understood. It is also of vital importance that THP's are consulted in this regard to ensure that cultural practices can be incorporated in the process.

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Abbreviations

Bot	Botswana
DST	Department of Science and Technology
DWA	Department of Water Affairs
DWE	Department of Environmental Affairs
EC	Eastern Cape
EGSA	Ecological goods and services attributes
FS	Free State
F2Ph	Farmer to Pharma
GA	Gauteng
HGM	Hydrogeomorphic Model
IKS	Indigenous Knowledge Systems
KZN	KwaZulu-Natal
Les	Lesotho
LP	Limpopo
MP	Mpumalanga
Nam	Namibia
NEMA	National Environmental Management Act
NW	Northwest
NWA	National Water Act
SANBI	South African National Biodiversity Institute
Swa	Swaziland
THP	Traditional Health Practitioner
WC	Western Cape

1 Introduction

1.1 Background

It is estimated that South Africa has more than 200 000 Traditional Health Practitioners (THPs) that utilise, *inter alia*, indigenous and exotic plants associated with both terrestrial and freshwater ecosystems for medicinal purposes. Approximately 30 million people make use of their services and in many instances it is their only recourse to medicinal care. In 2000, it was estimated that the annual local trade in medicinal plants amounted to 20 000 tonnes, representing 574 species (Laws et. al, 2004, SAAW&K 2010).

The topic of medicinal plants and its uses has been widely researched in South Africa with emphasis on its use (Arnold *et al.*, 2002, Dugmore & Van Wyk, 2008; Hutchins *et al.*, 1996, Kellerman *et al.*, 2002, Neuwinger 1994, Cunningham 2001, SAAW&K 2010, Van Wyk *et al.*, 2000; Van Wyk & Gericke 2002, Van Wyk *et al.* 2003, Van Wyk & Wink 2004, Watt & Breyer-Brandwijk 1962) and biological activities (Watt and Breyer Brandwyk 1962, Eloff 1999, 2000, 2001, 2004, Eloff et al. 2001, 2005, 2008, Eloff & McGaw 2006). Efforts have also been made for ex-situ propagation of certain endangered plants with medicinal properties, especially in KwaZulu-Natal (Geoff Nicholls, pers. comm.).

The University of the Western Cape is very actively involved in research on medicinal plants occurring in that region (The Pharmacopoeia Monograph Project, developed by South African Traditional Medicines Research Group School of Pharmacy: University Of The Western Cape), the Universities of Pretoria (Phytomedicine Programme), Venda, Medunsa and KZN also undertake medicinal plant research based on various aspects covering ethnobotany, antimicrobial and antioxidant activities, ecology. Science councils such as the Council for Scientific and Industrial Research (CSIR) are also undertaking similar studies.

The ecological role of medicinal plants associated within freshwater ecosystems has not yet been established and researched *per se*, although the ecological role or function of freshwater and wetland plants have been studied extensively (Dada *et al.* 2007, Dickens *et al.* 2003, Sainty and Jacobs 1994). However, the fact that some freshwater ecosystem plants are used as medicines does not imply that they have a unique ecological role or function. However, if their habitat, ecological role and conservation status are known, they can be protected, both under the National Water Act (NWA) and the National Environmental Management Act (NEMA).

This study will explore a variety of indigenous plants associated with freshwater ecosystems (rivers, wetlands, etc.) that are used as herbal medicines and will also record their known uses and ecological roles. The study is in support of the 'Farmer to Pharma' Grand Challenge of the Department of Science and Technology (DST) 10- year strategic plan. The grand challenge focuses on developing the bio-industry and indigenous knowledge to benefit indigenous biodiversity and develops a leading pharmaceutical industry in *South Africa*.

1.2 Terms of Reference

The terms of reference for the project are as follows:

- a) Distribution, use, and ecological roles of indigenous medicinal plants as well as management of the freshwater ecosystems associated with medicinal plants.
- b) Identification of and providing recommendations for areas that warrant further research in the fields listed in (a) above.
- c) Identification of specific plants that need further detailed research on the effectiveness of the medicinal uses and special protection measures.

1.3 Aims of this project

The aims of the project are as follows:

- a) To assess the current knowledge on medicinal plants occurring in freshwater ecosystem.
- b) To assess to what extent current national legislation can be utilised for the protection of herbal plants occurring in freshwater ecosystems.
- c) To identify areas of research that can enhance our understanding the role of medicinal plants occurring in freshwater ecosystems

Where applicable, the focus will be on distribution, use, protection and propagation of known medicinal plants.

1.4 Importance of freshwater ecosystems

Freshwater ecosystems differ greatly from one another depending on type, location, and climate (see Chapter 3.2), but they nevertheless share important features. In addition, because freshwater ecosystems are dynamic, all require a range of natural variation or disturbance to maintain viability or resilience. Water flows that vary both season-to-season and year to year, for example, are needed to support plant and animal communities and maintain natural habitat dynamics that support production and survival of species. Variability in the timing and rate of water flow strongly influence the sizes of plant and animal populations and their age structures, the presence of rare or highly specialized species, the interactions of species with each other and with their environments, and many ecosystem processes (Ecological Society of America. (2003)).

This spatial and temporal variability ensures the species richness of these habitats.

In the initial compilation of a plant list reflecting plants used for medicinal purposes and that are suspected to occur in freshwater ecosystems, 492 plants were identified. Using certain criteria (see Chapter 4), the list was narrowed down to 229 plants. This is a substantial fraction of the 470 plants listed by SAAW&K (2010) that were considered

to be used medicinally. This list includes many of the most important medicinal plants as identified by Von Ahlefeldt *et al.* (2003) and Diederichs (2006). Although the freshwater ecosystems in which these plants occur, are not defined by plants with medicinal properties, the medicinal plants still occupy a very specialised habitat and it is important that this habitat be understood so that protection measures can be put into place to ensure their survival. As already indicated, these ecosystems show great temporal and spatial variations and this ensures the variety and survival of the plants. Many of these plants are very habitat specific such as certain ground orchids, pineapple lilies and red-hot poker. It is also suspected that many of these plants have a symbiotic relationship with certain fungi in the soil that ensures their survival as well as their propagation in nature. An example of the latter also includes ground orchids, but there certainly is more. This has the implication that these plants will only be propagated *ex situ* with great difficulty. Their sustainable use and protection is therefore of paramount importance.

1.5 Target users of this report

The main target users at this stage are:

- Researchers, including academic institutions
- Ecologists
- Government Departments
- Licensing authorities
- Horticultural trainers
- Relevant stakeholders

2. Approach to this project

2.1 Review of literature

More than eighty publications on indigenous plants were consulted during the study. Of all the literature used in this study, none addresses only medicinal plants associated with freshwater ecosystems, neither is there a comprehensive publication on South African wetland and riverine plants. However, regional lists were consulted and detail will be supplied where relevant.

In order to maximise the information available in the literature, the following approach was adopted: From the annotated checklist of medicinal plants compiled by Arnold *et al.* (2002), plants deemed to occur in freshwater ecosystems were selected. Plant use described as “magical” were not included in the list if that was the only identified use. Other publications were then consulted to confirm or expand the information (See Appendix 2). The approach led to the identification of approximately 500 herbal plants associated with freshwater ecosystems.

2.2 Collaboration and consultation

A meeting was arranged with Mr. Geoff Nichols, well-known horticulturist, who established and was in charge of Silverglen Nursery situated in Chartsworth near Durban, KwaZulu-Natal for nearly twenty years. The nursery focused on the propagation of medicinal plants originating from the Eastern seaboard. The nursery was the first of its kind and is still operational today. The horticulturalist in charge of Silverglen Nursery today, Mr. Brian Abrahams, was also visited. The aim of the visit was to establish the *status quo* regarding plant propagation, current interaction with herbalists as well as the lessons learnt over the past 25 years that the nursery has been operational.

Detail discussions were held with a herbalist, Mr. Jabulani Mabanga, about current herbal practices. Mr. Mabanga also attended the workshop that was held on 15 February 2011.

Due to budgetary constraints, wider consultation was not possible. Since Silverglen Nursery has been in existence for more than 25 years, their views were regarded as representative of a very wide segment of the herbal community. The recommendations that emanated from the discussions are outlined in Chapter 6.

2.3 Workshop

A workshop (see Appendix 1) was held on 15 February 2011 at the offices of the Water Research Commission in Pretoria to obtain inputs from other role players that could not be consulted in person regarding the approach and outcomes of this project. The participants were chosen across a broad spectrum of expertise to ensure that the discussions were multi-faceted.

The recommendations that emanated from the workshop have been incorporated into the report.

It must be noted that one of the main concerns that was raised during this workshop is that medicinal plants are currently harvested at unsustainable rates in the wild. In fact, some important plant species utilised for medicinal purposes are already considered extinct outside protected areas in KwaZulu-Natal, such as the wild ginger (*Siphonochilus aethiopicus*), the pepper bark tree (*Warburgia salutaris*) and the black stinkwood (*Ocotea bullata*).

3 The extent of this project

3.1 Legal background

Since one of the aims of this study is, *inter alia*, the legal protection of medicinal plants that occur in freshwater ecosystems, the definitions of “wetland” and “riparian habitat” were taken from the National Water Act (Act 36 of 1998) and are as follows:

*“**wetland**” means land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil.*

*“**riparian habitat**” includes the physical structure and associated vegetation of the areas associated with a watercourse which are commonly characterised by alluvial soils, and which are inundated or flooded to an extent and with a frequency sufficient to support vegetation of species with a composition and physical structure distinct from those of adjacent land areas;*

Based on these definitions it was decided at the workshop, that for the purposes of this document, to include plants associated with a “freshwater ecosystem” would be defined as follows:

“Plants that occur in freshwater habitats associated with riparian and wetland ecosystems, that survive permanent or temporarily saturation and anaerobic conditions – excluding coastal estuarine systems.”

“Medicinal plants” were defined as follows:

“Plants containing chemical compounds with therapeutic properties.”

Protection of these plants can legally be accommodated under the NWA and under NEMA, as will be discussed in the following sections.

3.1.1 National Water Act Protection.

In Chapter 3 of the National Water Act, (Act 36 of 1998) provision is made to classify a resource, in order to ensure its long-term sustainable use. It is stated:

“12. (1) As soon as is reasonably practicable, the Minister must prescribe a system for classifying water resources.

(2) The system for classifying water resources may -

(b) In respect of each class of water resource -

(iii) set out water uses for instream or land-based activities which activities must be regulated or prohibited in order to protect the water resource; and

*(c) provide for such other matters relating to the **protection, use, development, conservation**, management and control of water resources, as the Minister considers necessary”.*

Based on this, the DWA developed a National Water Classification System (Dollar *et al.*, 2006) where the socio-economic component must be evaluated as follows:

Step 1: Socio-economic component

Six sub-steps and two combined sub-steps are required for the socio-economic component of Step 1. The sub-steps are:

Step 1a:	Describe present socio-economic status of the catchment;
Step 1b:	Divide catchment into socio-economic zones;
Step 1e:	Describe communities and their wellbeing;
Step 1f:	Describe and value the use of water;
Step 1g:	Describe and value the use of aquatic ecosystems; and
Step 1j:	Describe present-day community wellbeing

Step 2a: Rationalise the choice of ecosystem values to be considered based on ecological and economic data

The objective of *rationalising the choice of ecosystem values to be considered based on ecological and economic data* is to decide on the values on which to concentrate efforts for the catchment configuration scenario analysis.

It is recommended that a table be constructed with the following (value) information:

- **Description of value;**
- Probable significance in the catchment;
- Data requirements from the ecological component of the classification procedure;
- Possibility of being able to obtain relevant ecological data;
- Other data required (social, agronomic etc.); and
- Possibility of being able to obtain other relevant data.

Step 2b: Describe the relationships that determine how **economic value and social wellbeing are influenced by ecosystem characteristics** and the sectoral use of water

The descriptions and values could be categorized according to **EGSAs that contribute to social wellbeing and economic prosperity**, EGSAs that result in costs avoided/incurred and therefore contribute to economic prosperity, intangible use and non-use values, and sectoral turnover that contributes to economic prosperity and social wellbeing.

For valuing EGSAs that contribute to social wellbeing and economic prosperity, the following could be considered:

- Flow contribution to floodplain agriculture;
- Livestock production;
- Tourism and recreation;
- Refugia, nursery areas and export of sediment and nutrients;
- **Value of harvested goods;** and
- Domestic use of instream water.

For valuing intangible use and non-use values that contribute to social wellbeing, the following could be considered:

- **Cultural and spiritual value;**
- Educational and **scientific value;** and
- Option and existence value.

The study linked up strongly with this mandate where the sustainable use of medicinal plants that occur within the ecological environment (aquatic, riverine and wetland) can be given legal protection and, under Resource Quality Objectives, provided that they have been incorporated into the Classification of the resource.

3.1.2 National Environment Management Act (Act No. 107, 1998)

In the preamble to the NEMA, it is stated that:

*'Everyone has the right to have the environment protected, for the benefit of present and future generations through reasonable legislative and other measures that—
prevent pollution and ecological degradation;
promote conservation; and
secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development'*

In Chapter 1, it is, *inter alia*, stated that:

(2) Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.

4(d) Equitable access to environmental resources, benefits and services to meet basic human needs and ensure human well-being must be pursued and special measures may be taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination.

4(r) Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure.

From the above, it is evident that the intention of the Act is the sustainable utilisation of our natural resources with emphasis on the previously disadvantaged.

This concept is taken further in the National Environmental Management: Biodiversity Act (Act 10 of 2004) as amended in 2009, where it states that the Act should provide for:

- 2 (a) (ii) the use of indigenous biological resources in a sustainable manner; and
(iii) the fair and equitable sharing among stakeholders of benefits arising from bio-prospecting involving indigenous biological resources;*

In Chapter 4, Part 2, the Act also makes provision for the protection of threatened species, that is, it also regulates the trade in such species.

Chapter 6 expands on the conditions related to bio-prospecting, access and benefit sharing of our natural resources. This section would be very relevant if plant material, collected in the wild, could be subjected to further scientific research regarding their medicinal properties.

3.2 Freshwater ecosystems

For the purposes of this study, freshwater ecosystems are considered to be wetlands, rivers and associated riparian zones. (See 3.1 for a formal definition as proposed at the workshop).

SANBI (2009) proposed a classification system for wetlands that actually addresses all the habitats of importance in this study. Their proposed Classification System also considered the requirements of the NWA and NEMA. It follows a hydrogeomorphic (HGM) approach, which uses hydrological and geomorphological characteristics to distinguish primary wetland units. The HGM approach is based on factors that influence how wetlands function and not based on structural features such as size, depth, vegetation cover and presence of surface water (Cowardin *et al.* 1979).

The Classification System proposed by SANBI (2009) recognised three systems that are divided into six levels each. Level 4 of the Inland System is relevant to this study and eight primary HGM Types are recognised at this level of the Inland System:

3.2.1 Channel (river, including the banks).

An open conduit has clearly defined margins that:

- Continuously or periodically contains flowing water, or
- Forms a connecting link between two water bodies.

Dominant water sources include concentrated surface flow from upstream channels and tributaries, diffuse surface flow or interflow, and/or groundwater flow. Water moves through the system as concentrated flow and usually exits as such but can exist as diffuse surface flow because of a sudden change in gradient. Uni-directional channel-contained horizontal flow characterises the hydrodynamic nature of these units. Channels generally refer to rivers or streams that are subject to concentrated flow on a continuous basis or periodically during flooding, as opposed to being characterised by diffuse flow (see unchannelled valley-bottom wetland). As a result of the erosive forces associated with concentrated flow, channels characteristically have relatively obvious active channel banks.

The entire active channel (including wetlands occurring on the banks, i.e. in the riparian zone) is treated as a unit.



Figure 3.1. River channel, including banks.



Figure 3.2. Channeled valley bottom wetland near Dullstroom, Mpumalanga

3.2.2 Channeled valley-bottom wetland.

A valley-bottom wetland is dissected by and typically elevated above a channel (see channel). Dominant water inputs to these areas are typically from the channel, either as surface flow resulting from overtopping of the channel bank/s or as interflow, or from adjacent valley-side slopes (as overland flow or interflow). Water generally moves through the wetland as diffuse surface flow, although occasional, short-lived concentrated flows are possible during flooding events. Small depressional areas within a channeled valley-bottom wetland can result in the temporary containment and storage of water within the wetland. Water generally exits in the form of diffuse surface flow and interflow, with the infiltration and evaporation of water from these wetlands also being potentially significant (particularly from depressional areas). The hydrodynamic nature of channeled valley-bottom wetlands is characterised by bidirectional horizontal flow, with limited vertical fluctuations in depressional areas.

3.2.3 Unchanneled valley-bottom wetland.

An unchanneled valley-bottom wetland does not have a major channel running through it. It is characterised by an absence of distinct channel banks and the prevalence of diffuse flows, even during and after high rainfall events. Water inputs are typically from an upstream channel, as the flow becomes dispersed, and from adjacent slopes (if present) or groundwater. Water generally moves through the wetland in the form of diffuse surface flow and/or interflow (with some temporary containment of water in depressional areas), but the outflow can be in the form of diffuse or concentrated surface flow. Infiltration and evaporation from unchannelled valley-bottom wetlands can be significant, particularly if there are a number of small depressions within the wetland area. Horizontal, uni-directional diffuse surface-flow tends to dominate in terms of the hydrodynamics.

3.2.4 Floodplain wetland

The mostly flat or gently sloping wetland areas are subject to periodic inundation by overtopping of the channel bank. For purposes of the classification system, the location adjacent to a river in the Lowland or Upland Floodplain Zone is the key criteria for distinguishing a floodplain wetland from a channeled valley-bottom wetland. Water and sediment input to floodplain wetland areas is mainly via overtopping of a major channel, although there could be some overland or subsurface flow from adjacent valley side-slopes (if present). Water movement through the wetland is dominantly horizontal and bidirectional, in the form of diffuse surface flow and interflow, although there can be significant temporary containment of water in depressional areas (within which water movement is dominantly vertical and bidirectional). Water generally exits as diffuse surface flow and/or interflow, but infiltration and evaporation of water from a floodplain wetland can also be significant, particularly if there are a number of depressional areas within the wetland.



Figure 3.3. Unchannelled valley bottom wetland near Badplaas, Mpumalanga



Figure 3.4. Floodplain wetland, St. Lucia, KwaZulu-Natal.

3.2.5 Depression

A depression is defined as a landform with closed elevation contours that increases in depth from the perimeter to a central area of greatest depth, and within which water typically accumulates. Dominant water sources are precipitation, ground water discharge, interflow and (diffuse or concentrated) overland flow. For 'depressions with channeled inflow', concentrated overland flow is typically a major source of water for the wetland, whereas this is not the case for 'depressions without channeled inflow'. Dominant hydrodynamics are primarily seasonal vertical fluctuations. Depressions may be flat-bottomed (in which case they are often referred to as 'pans') or round-bottomed (in which case they are often referred to as 'basins'), and may have any combination of inlets and outlets or lack them completely. In 'exorheic depressions' water exits as concentrated surface flow, while, for 'endorheic depressions' water exits by means of evaporation and infiltration.

3.2.6 Flat

A flat is a near-level wetland area (i.e. with little or no relief), with little or no gradient, situated on a plain or a bench in terms of landscape setting. The primary source of water is precipitation, with the exception of flats along the coast (usually in a plain setting) where the water table (i.e. groundwater) may rise to the surface or near to the surface in areas of little or no relief because of the location near to the base level of the land surface represented by the presence of the ocean.



Figure 3.5. Small depression in the Steenkampsberg foothills, Mpumalanga



Figure 3.6. Flat near Chrissiesmeer, Mpumalanga.

3.2.7 Hillslope seep

A hillslope seep is located on (gently to steeply) sloping land, which is dominated by the colluvial (i.e. gravity-driven), uni-directional movement of material down-slope. Water inputs are primarily from groundwater or precipitation that enters the wetland from an up-slope direction in the form of subsurface flow. Water movement through the wetland is mainly in the form of interflow, with diffuse overland flow ('sheetwash') often being significant during and after rainfall events. Water leaves a 'hillslope seep with channeled outflow' mostly by means of concentrated surface flow, whereas water leaves a 'hillslope seep without channeled outflow' by means of a combination of diffuse surface flow, interflow, evaporation and infiltration.

3.2.8 Valleyhead seep

The valleyhead seep is a gently-sloping, typically concave wetland area, often located on a valley floor at the head of a drainage line, with water inputs mainly from subsurface flow (although there is usually also a convergence of diffuse overland water flow in these areas during and after rainfall events). Horizontal, unidirectional (down-slope) movement of water in the form of interflow and diffuse surface flow dominates within a valleyhead seep, while water exits at the downstream end as concentrated surface flow where the valleyhead seep becomes a channel.



Figure 3.7. Hillslope seep in the Verlorenvallei Nature Reserve outside Dullstroom, Mpumalanga.



Figure 3.8. Valleyhead seep in the foothills of the Steenkampsberg, Mpumalanga.

3.3 Ecological role of medicinal plants associated with freshwater ecosystems.

The term, ecology, describes the **study of the interrelationships between organisms and their environment**. (Oxford Dictionary of Geography – <http://www.answers.com/topic/ecology-1#ixzz1FWUNpkUI>; and the Britannica Concise Encyclopedia <http://dictionary.reference.com/browse/ecological>).

This interaction can be either biotic or abiotic. McGraw-Hill Science & Technology Encyclopedia (<http://www.answers.com/topic/ecology-1#ixzz1FWUGIU08>) states that abiotic components include temperature, wind, inorganic chemicals, and radiation. The biotic components of the environment include the organisms. A somewhat more general term for these interactions is habitat, which refers in a general way to where an organism occurs in an ecosystem, the environmental factors present there and the interaction between them.

There is, therefore, an understanding that the environment affects the organism, in this case the freshwater plants used medicinally, just as these plants affect the environment.

It must also be noted that plants used for medicinal purposes do not have a unique ecological role associated with them and must be evaluated as part of the bigger ecological community.

Because of the inter-connectedness of the different components of freshwater ecosystems, interference with one component, e.g. the harvesting of medicinal plants, can affect the functioning of the other components. Proper management is therefore needed to ensure the sustainability of the freshwater system as well as the sustainable use of the medicinal plants.

The following classification was used to determine the ecological function of each plant listed in Appendix 3.

Table 3.1. Ecological function of plants in freshwater ecosystems

Bank stabiliser	Plants that grow on river banks
Soil stabiliser	Plants that grow in grassland, woodland and floodplains
Water quality	Plants that are primarily aquatic or definite wetland plants
Water cycling	Plants that are broad leaved or trees that may contribute through transpiration
Flood retention	Plants that grow in aquatic environments, vleis, marshes, floodplains, etc. and may play a role in retaining water for groundwater recharge; or may have an impact on wave and high flow actions to prevent erosion
Species diversity support	Plants that may in many ways have an impact on habitat, as food source or as nesting material utilised by other organisms
Parasitic	Plants that are parasitic on other plants
Insectivorous	Plants that use other sources for nutrients

Alternatively, the role of these plants can also be expressed in terms of environmental benefits that plants occurring in freshwater ecosystems can deliver.

This may be a more practical way to visualise the role of these plants, rather than highlighting the ecological function as set out in Table 3.1.

A detailed discussion of these roles follows. The environmental benefits will obviously be a function of the type and extent of a particular wetland (See Chapter 2.3).

3.3.1 Water purification

Aquatic and wetland plants are known to protect or improve water quality (Dada *et al.* 2007, Sainty and Jacobs 1994), by trapping sediments and retaining excess nutrients and heavy metals within the wetland.

In the catchment human developments, agricultural and forestry practices may carry sediment to the water resources. This sediment is often associated with nutrients and toxic heavy metals, which enters the freshwater ecosystem as runoff. Streambed gravel and wetland plants trap this high influx of sediment and the slowing down of water in these ecosystems allows the sediments to settle. This leads to the reduction of these pollutants (nutrients and heavy metals) from the water or the conversion to less harmful chemical forms (<http://www.ecy.wa.gov/programs/sea/wetlands/functions.html>, Dickens *et al.* 2003, Dada *et al.* 2007, Sainty and Jacobs 1994,).

Plants that are important in this regard are for example the aquatics (e.g. *Aponogeton distachyos*), sedges (many *Cyperus spp.*), bulrushes (*Typha capensis*) and reeds (*Phragmites australis* and *Phragmites mauritianus*). Detail can be found in Appendix 3. According to Sainty and Jacobs (1994), both submerged and emergent bank floating plants contribute towards water purification. *Torenia thouarsii* and *Gunnera perpensa* are important in this regard, respectively as submerged and as emergent bank stabilisers.

3.3.2 Flood protection

Most wetlands provide a measure of flood protection by holding back excess water after storm events (Dickens *et al.* 2003). Pools, pans and floodplains absorb or dissipate surface water and attenuate peak flows in the process (Dada *et al.* 2007). The water is then released slowly after the storm event. The size, shape location, soil type, plant type and plant coverage determine the capacity to reduce local and downstream flooding. The wetland soils and wetland plant mass acts as sponges to hold back much more water than in other habitat types. When aquatic plants are considered, the submerged plants reduce erosion by reducing flow rates and trapping suspended sediments (Sainty and Jacobs 1994).

Plants that fulfill an important role in this regard are the willows (*Salix sp.*), cyperaceae (e.g. *Cyperus articulatus* and *Cyperus fastigiatus*) and the reeds (*Phragmites australis* and *Phragmites mauritianus*).

3.3.3 Shoreline and riverbank stabilisation

Wet areas along the shoreline of lakes and the banks of rivers assist in the protection of these areas against erosive wave and current actions during high rainfall events (Dickens *et al.* 2003). The wetland plants act as a buffer by minimising the water's energy and providing stabilisation through binding the soils with their extensive root systems and dense plant cover. The important aquatic and wetland plants for shoreline and riverbank stabilisation are the rooted emergent, riparian zone, and floating plants (Sainty and Jacobs 1994).

Plants that are important in this regard have shallow, dense root systems such as *Berula erecta*, willows (*Salix sp*), River bushwillow (e.g. *Combretum erytrophillum*) and the Oldwood (*Leucosidea sericea*).

3.3.4 Water recycling (including groundwater recharge and streamflow maintenance)

Through interflow, many of the high altitude wetlands provide a source of water for downstream streams and rivers. Through the retentive properties of the soil in the wetland, water can be supplied over a much longer period thereby sustaining ecosystems downstream.

The transpiration of aquatic and wetland plants can contribute largely to the recycling of groundwater resources into the air phase of water. For instance, in the Okavango Delta the trees 'pump' out water at such a rapid rate that the water table beneath the swamp islands are substantially lower than in the swamp itself (Ellery & Ellery, 1997).

However, the aquatic and wetland plants can also maximize the time that water stays within these wet areas and this makes the recharge of the aquifers possible. The rooted emergent, riparian zone and floating plants may under certain circumstances also reduce evapotranspiration (Sainty and Jacobs 1994).

3.3.5 Biodiversity support

A study by Bertoli (1996) highlighted the fact that standing waters like lagoons, dams and small streams (lentic habitats) provide habitat for larger species diversity than the larger rivers and streams (lotic habitats). Aquatic and wetland systems, through habitat types and plant diversity, provide a wide variety of habitats for plants and associated specific animal life. Some species use these systems for their complete life cycle and food sources, while other organisms can migrate and redistribute nutrients. It can also act as corridors that connect terrestrial ecosystems to freshwater ecosystems. In many areas, these also act as exclusive breeding area for fauna. (Cowan 1995).

Wetlands are known to possess a magnificent number of plants that are adapted to grow under the anoxic conditions that pertain within a wetland. Similarly, the aquatic or obligate plants are adapted to grow with their roots under constant wetness within the water column. Examples are the pineapple lilies (*Eucomis sp*), red-hot poker (*Kniphofia sp.*) and some ground orchids.

3.3.6 Economic benefits

One of the major economic benefits of freshwater ecosystems is the value that tourists put on pristine aquatic and wetland sites. These include wilderness areas that are used for hiking, camping and other eco-tourism activities.

Apart from the economic value of plants that are used for medicinal purposes, freshwater ecosystems are known to produce plants that are used for food production, building materials, fuel, fibre, craft manufacturing and animal fodder. All these offer a large economic value, which has become a reliant source of livelihoods.

3.3.7 Other benefits

Other benefits associated with freshwater ecosystems include the aesthetic value, clean air (carbon sequestration), recreational, religious and spiritual significance.

3.4 Data analysis

Medicinal plants occurring in freshwater ecosystems were grouped into the following plant types:

- Annual herbs
- Aquatic (submerged and free floating)
- Ferns
- Geophytes
- Grasses
- Perennial herbs
- Sedges
- Shrubs and
- Trees.

This information was also captured in the table in Appendix 3.

For a description of freshwater ecosystems as defined in this study, the reader is referred to Chapter 3.2.

The purpose of this data analysis was to establish whether a particular plant group (such as bulbs) plays a dominant role or whether some freshwater ecosystems, (as defined in this study), are more prominent in terms habitat for plants with medicinal properties.

3.4.1 Plant type

In Figure 4.1, the plant type utilised for medicinal purposes, as listed in Appendix 3, in all the freshwater ecosystems is expressed as a percentage of the total number of plant species.

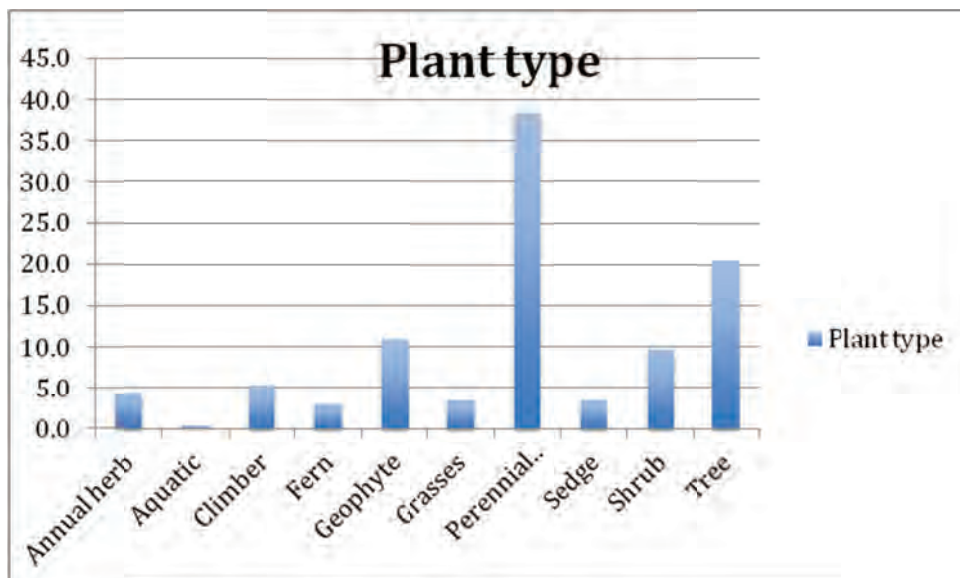


Figure 4.1. Distribution of plant types across the spectrum of freshwater ecosystems. The most used plants are perennial herbs and trees.

From the above, it is evident that perennial herbs are the most utilised plant type followed by trees, geophytes and shrubs.

From a propagation point of view, perennial herbs grown from seed or cuttings can be utilised within 1 to 2 years, geophytes 3 to 4 years and trees 5 to 15 years, depending on which part of the plant is used.

3.4.2 Species distribution according to freshwater ecosystems

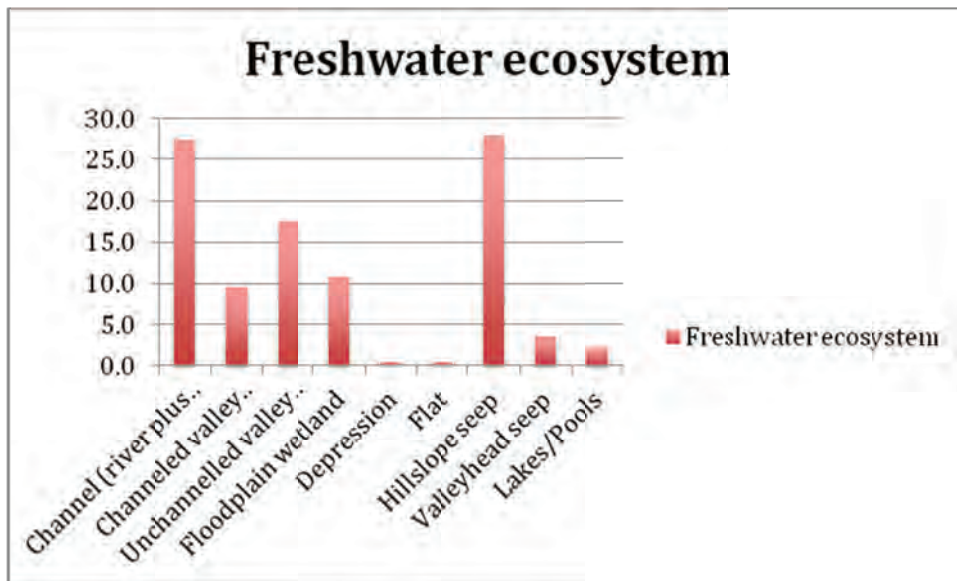


Figure 4.2. Plant distribution as per freshwater ecosystem. The river channel and hillslope seep stand out as dominant ecosystems.

When the plants were classified according to their occurrence in freshwater ecosystems, it was difficult to distinguish between hillslope seeps and valleyhead seeps. In the context of this study, this differentiation is probably not important.

As is expected, most plants utilised occur within wetlands associated with valleys. Of these, the channel (river plus banks) is the most important. An interesting aspect is the amount of plants that occur in hillslope seeps, if the surface area that they occupy relative to the other freshwater ecosystems is taken into account.

3.4.3 Species distribution per freshwater ecosystem

Data was also analysed to determine the plant type distribution per freshwater ecosystem as indicated in Table 4.3. In the last column of the table, the amount of species that occur in a particular freshwater ecosystem is indicated. Plant type occurrence per freshwater ecosystem is expressed as a percentage of the total number of plants in a specific freshwater ecosystem.

Table 4.3. An analysis of the relationship between Ecosystem and Plant Type

Ecosystem/ Plant type	Chan- nel	Chan- neled valley bottom	Depres- sion	Flat	Flood plain wet- land	Hillslope seep	Valley- head seep	Lake	Unchan- neled valley bottom	n
Annual herb	30,0	0,0	10,0	0,0	10,0	20,0	10,0	10,0	10,0	10
Aquatic	0,0	0,0	0,0	0,0	0,0	0,0	0,0	100,0	0,0	1
Climber	25,0	0,0	0,0	0,0	41,7	16,7	0,0	0,0	16,7	12
Fern	14,3	0,0	0,0	0,0	0,0	71,4	14,3	0,0	0,0	7
Geophyte	0,0	18,2	0,0	4,5	0,0	45,5	4,5	0,0	27,3	22
Grass	25,0	0,0	0,0	0,0	25,0	12,5	0,0	0,0	37,5	8
Perennial herb	8,1	16,3	0,0	0,0	7,0	37,2	4,7	2,3	24,4	86
Sedge	25,0	25,0	0,0	0,0	0,0	0,0	0,0	0,0	50,0	8
Shrub	18,2	0,0	0,0	0,0	27,3	36,4	0,0	4,5	13,6	22
Tree	87,2	4,3	0,0	0,0	6,4	2,1	0,0	0,0	0,0	47

To make the results displayed in Table 4.3 more accessible, a graph of plant type per freshwater ecosystem was compiled.

3.4.3.1 Unchanneled valley bottom

The unchanneled valley bottom wetland has a fairly even distribution of species, with grasses and sedges the most dominant. It is also rich in geophytes.

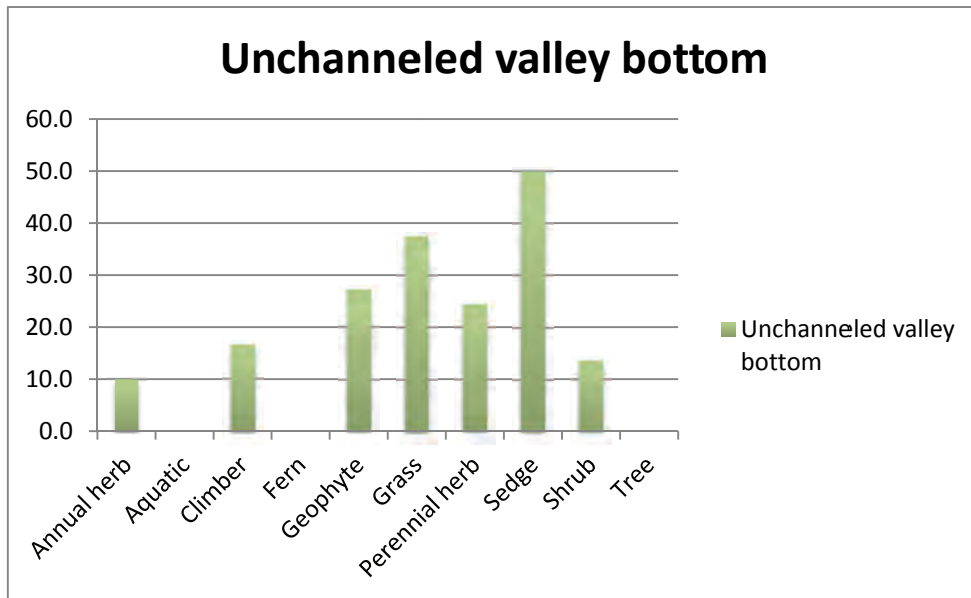


Figure 4.3. Plant type distribution in an unchanneled valley bottom wetland.

3.4.3.2 Channeled valley bottom

The channeled valley bottom wetland sees the emergence of some trees, but with geophytes, perennial herbs and sedges dominant.

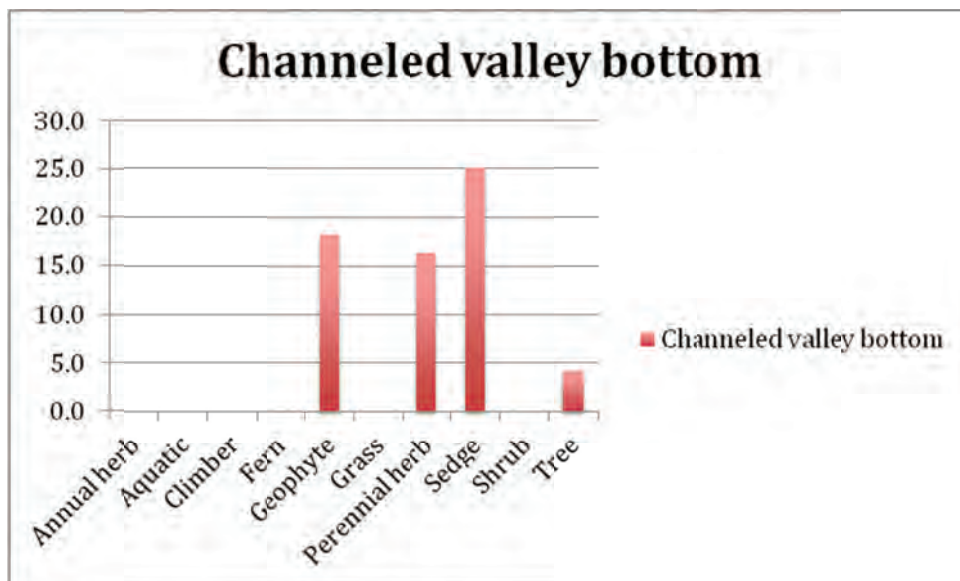


Figure 4.4. Plant type distribution in a channeled valley bottom wetland

3.4.3.3 Channel

In the channel (and associated banks), trees are by far the most dominant plant type. Trees make up about 20% of all medicinal plant use and this is therefore a very important habitat to protect (Lawes et al., 2004).

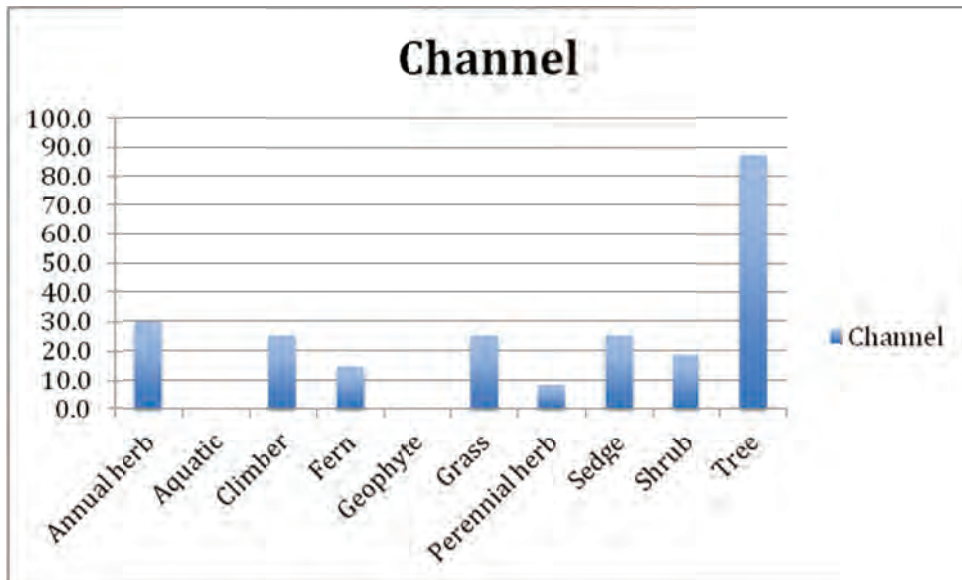


Figure 4.5. Plant type distribution in a river channel and associated banks.

3.4.3.4 Lake

Lakes constitute a very small fraction of wetlands in South Africa and are therefore not very important in this analysis.

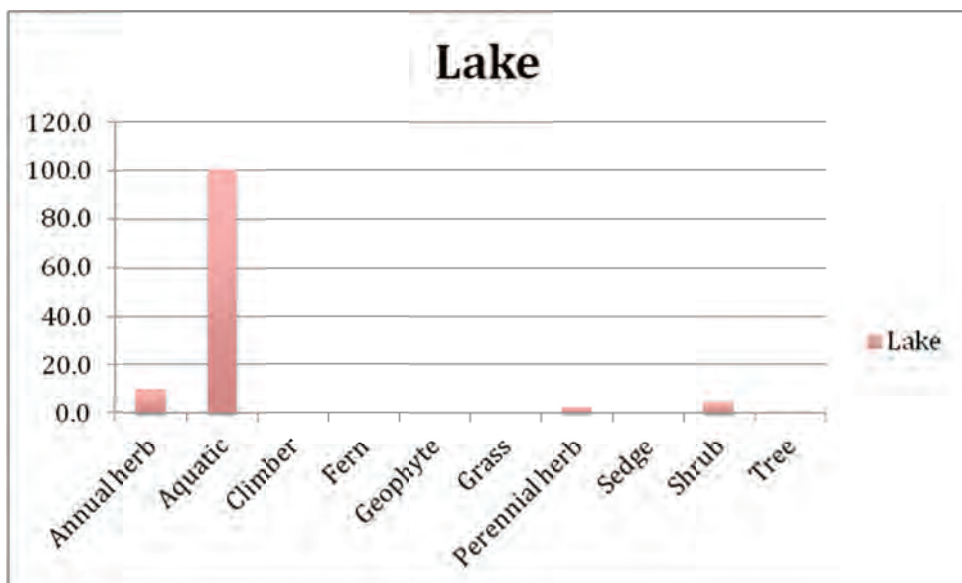


Figure 4.6. Plant type distribution in a lake.

3.4.3.5 Flat

The water content in flat wetlands can vary considerably and that makes the establishment of plants that require moisture regularly, difficult. That is why geophytes are the dominant species in this habitat. Although not shown, annual herbs can also be expected in this habitat.

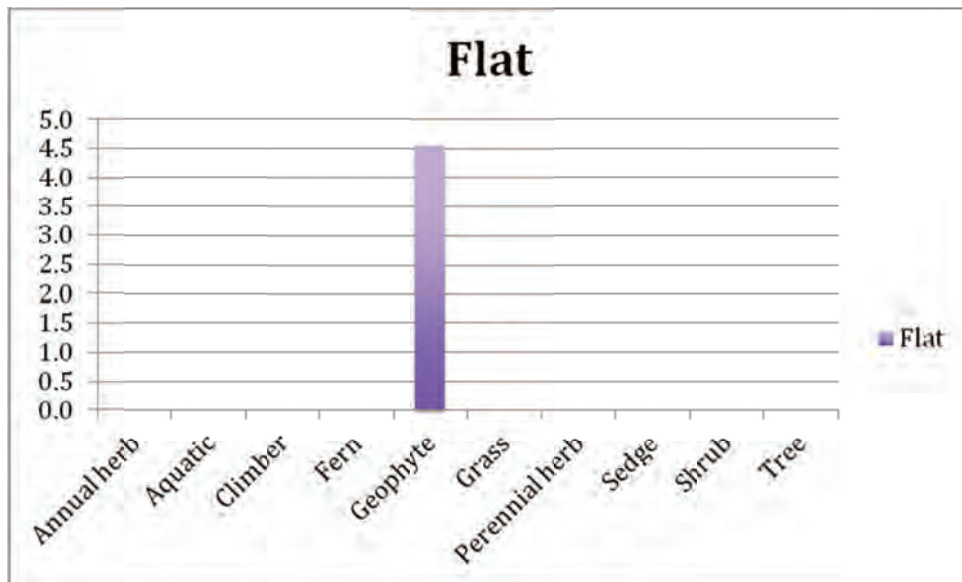


Figure 4.7. Plant type distribution in flat wetland

3.4.3.6 Floodplain wetland

Floodplain wetlands also contain a large variety of plant species, with climbers, grasses and shrubs the most dominant.

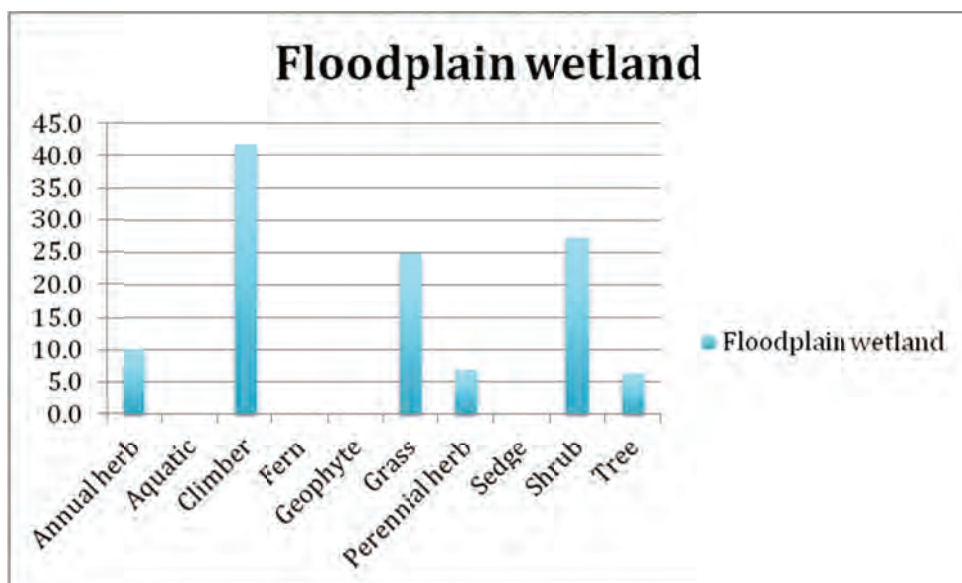


Figure 4.8. Plant type distribution in floodplain wetland

3.4.3.7 Depression

Due to their geomorphic composition and soil characteristics, depressions and in particular pans, have very poor vegetation cover. Areas surrounding some of these pans may be very rich in flora, such as the area surrounding Lake Chrissie in Mpumalanga.

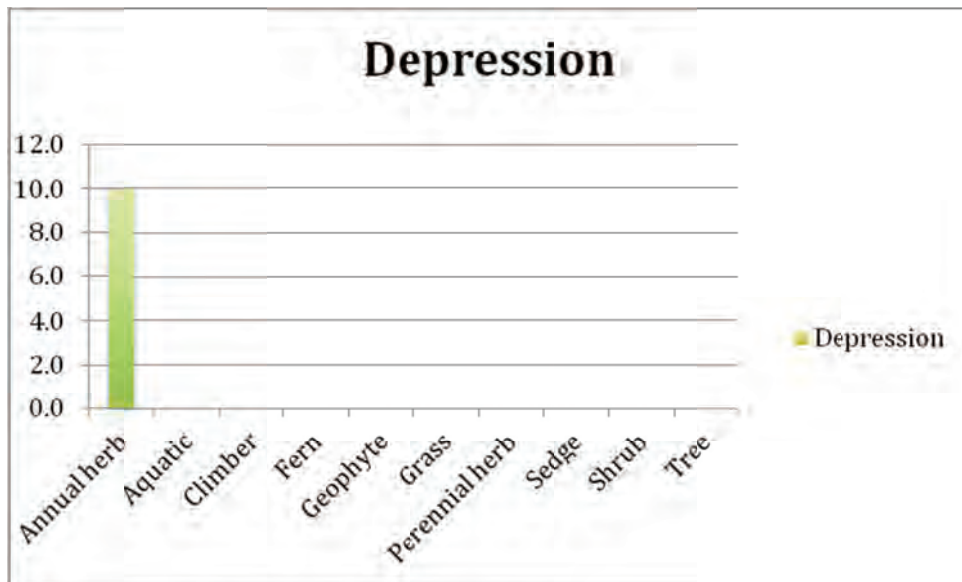


Figure 4.9. Plant type distribution in a depression

3.4.3.8 Valleyhead seep

In the context of this study, the valleyhead seep and hillslope seep are considered together.

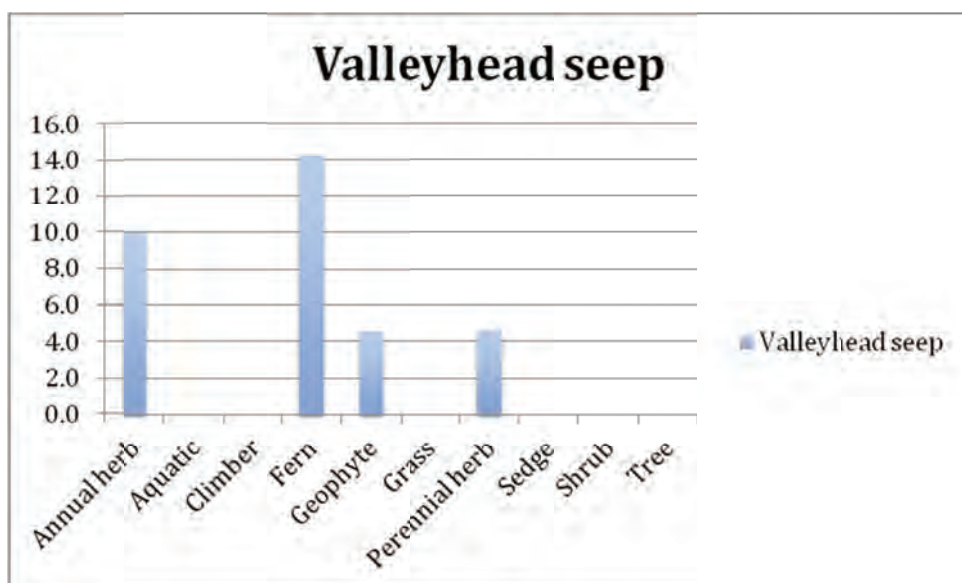


Figure 4.10. Plant type distribution in a valleyhead seep.

3.4.3.9 Hillslope seep

This habitat is, apart from trees, one of the most diverse concerning the occurrence of plant species utilised for medicinal purposes.

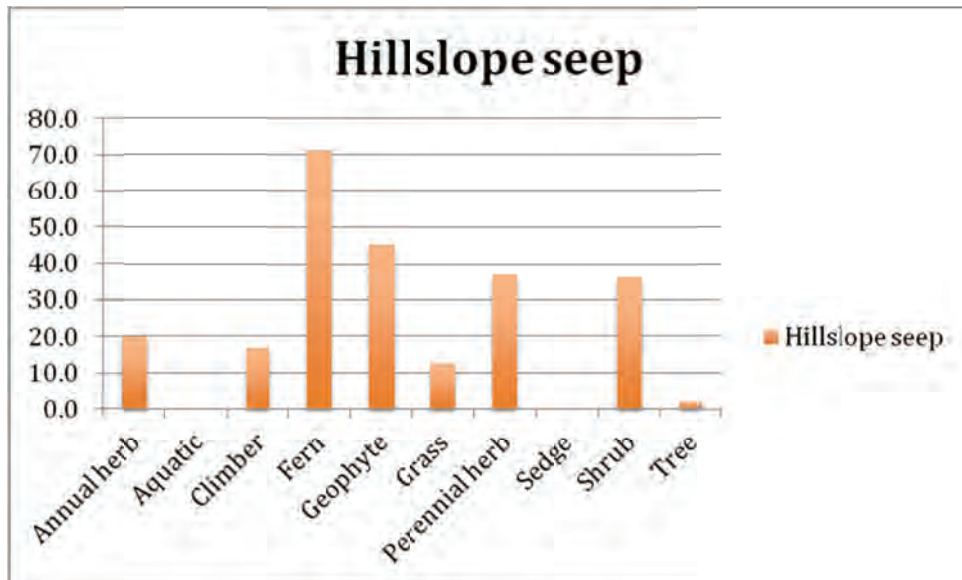


Figure 4.11. Plant type distribution in a hillslope seep.

4. Identification of medicinal plants associated with freshwater ecosystems

Von Ahlefeldt *et al.* (2003) compiled an extensive list of plants that were traded in KwaZulu-Natal prior to 2003. Table 4.1 is an extract from that list of medicinal plants occurring freshwater ecosystems. In this publication, uses were not specified and were obtained from other sources.

Diederichs (2006) listed the seventy most utilised medicinal plants in KwaZulu-Natal. The plants listed in Table 4.2, extracted from that list, occur in freshwater eco systems (also see Lawes, 2004).

From the most used medicinal trees traded in the Eastern Cape, three can be associated with freshwater ecosystems, namely *Ilex mites*, *Rapanea melanophloeos* and *Trichillia emetica* (Lawes, 2004).

It must be noted that plants with medicinal properties that occur in freshwater ecosystems are restricted to areas with relatively high rainfall. Areas such as the Karroo and parts of the Eastern, Northern and Western Cape were not considered in this study. Many medicinal plants occur in these areas, but few, if any, are not associated with freshwater ecosystems.

Table 4.1 List of medicinal plant species occurring in freshwater ecosystems, traded on the Eastern Seaboard 2003. (Von Ahlefeldt et al, 2003)

Family	Genus and specie name	Other names	Plant type	Water resource	Distribution	Disease symptoms: Plant parts used	Literature reference with Page no.
ALLIACEAE	Tulbaghia ludwigiana Harv.	E: Scented wild garlic; Sw: ingotjwa, silkwa; Z: umwelela-kweli-phesheya	Geophyte	Hillslope seep	EC, FS, KZN, MP, LP, Les & Swa	Snake repellent: Depressed fontanel: Plant Menstrual problems, chest problems, fever, asthma, ulcers, constipation, stomach problems	8(510), 10(127), 23(NA), 34(956), 53(120), 66(NA), 69(174)
AMARYLLIDACEAE	Crinum moorei Hook.f. (RDL)	E: Moore's river lily, Inanda/Natal/Ngomi lily; A: Bos/Natal Ielie; Z: umnduze	Geophyte	Channeled valley bottom wetland	EC, KZN & GA	Swelling, urinary tract problems: bulb decoctions	1(52), 30, 8(350), 10(12), 31(76), 69(176)
ANACARDIACEAE	Protorhus longifolia (Bernh.) Engl.	E: Red Cape beech, red beech; A: harpuisboom, rooibeukhout, rooiboekenhout; X: umHlutthi, uzintlwa, iKhubalo, umHluthi-wezinja, umKhambathi, isifuce; Z: unHlangothi, umHluthi, umPhuza, isiFuze, isiFico-sehlathi, umKhumizo, umuThibomvu, umhlangothi	Tree	Channeled valley bottom wetland	EC, KZN, MP, LP & Swa	Stroke, ulcers, abdominal pains, stomach disorders, backaches and chest: Bark	10(108), 110, 21(49), 23(NA), 34(117), 37(86), 66(NA), 69(130))
APIACEA	Pimpinella caffra (Eckl. And Zeyh) D. Dietr.	Z: Ibheka	Perennial herb	Hillslope seep		Unspecified: intestinal worms	1(224), 21(1041), 69(22)

APIACEAE	Alepidea amatymbica Eckl. & Zeyh. var. amatymbica	E,Z: Kalmoes, kalmos; X: iqwili; Z: ikhathazo	Perennial herb	Hillslope seep	EC (Amatolas), FS, KZN, MP, LP, Les & Swa	Respiratory ailments, influenza: roots raw or cooked, as snuff or burned roots inhaled ; Stomach, abdomen pain, rheumatism, asthma, sore throat, fever, bleeding wounds, headache, disinfectant: powdered root(rhizomes); Tonic - small dose, purgative - large dose: ?	1(223), 10(16), 31(194), 21(1032), 69(180)
APOCYNACEAE	Mondia whitei (Hook. f.) Skeels	E: White's ginger; Z: umondi	Climber	Floodplain wetland		Roots: chewed for stomach disorders	1(249), 69(182)
APOCYNACEAE	Rauvolfia caffra (L.) Sond.	E: Quinine tree; A: kinaboom, koorsboom, waterboekenhout; X: umThundisa, umJelo, umThondisa, umJele; Z: umHlambamanzi, umKhadluvungu, umJela, umHlambamze	Tree	Channel (river plus banks)	WC, EC, KZN, MP, LP, NW, GA & Swa	Hysteria: Bark Insomnia: Bark Headaches: Dried leaves Fever: Malaria: Bark Heart failure: Bark Skin disease: latex in leaves Ascariide: Root & bark sores: Powdered inflorescence	10(109), 20(112-114), 21(95 & 96), 23(NA), 24(170), 34(164), 37(358), 46(10), 66(NA), 69(134)
APOCYNACEAE	Voacanga thouarsii Roe. And Schult.	E: Quinine tree; Z: Inomfe	Tree	Unchanneled valley bottom wetland	KZN, Swa	Fruit: food Latex: bird lime	3(506), 69(134)
ARACEAE	Zantedeschia aetiopica (L.) Scott	E: Arum lily; A: witkvankoor; Z: ikalamuzi	Perennial herb	Unchanneled valley bottom wetland	Mp, WC	Sores and boils: leaf	21 (115), 69(184)
CELASTRACEAE	Maytenus undata (Thunb.) Blakelock	E: Koko tree; Z: idohame	Tree	Channel (river plus banks)	EC, KZN, MP, LP & Swa	Bark: unspecified	1(183), 69(142)
CUCURBITACEAE	Lagenaria sphaerica	E: Wild melon; Z: iselwa-makhosi, uselwa	Creepier	Floodplain wetland		Leaves or roots: infusion in hot water taken for swelling	1(306), 69(82)

ERIOSPERMACEAE	<i>Eriospermum ornithogaloides</i> Baker	S: khongoana-tsa-ngoana; Z: incameshela	Geophyte	Hillslope seep	EC, FS, KZN, MP & Les	Earache, barrenness in women:?	8(90), 10(61), 15(0), 69(204)
EUPHORBIACEAE	<i>Bridelia micrantha</i> (Hochst.) Baill.	E: Mitzeeri, coastal goldenleaf, sweetberry; A: blousoetbessie, bruinstinkhout; S: umhlalamagcwabababa; X: umhlahlungulu; Z: incinci, umshonge, umhlahle	Tree	Channel (river plus banks)	EC, KZN, MP, LP & Swa; p230(3), p73(2), EC to trop Afr	Stomach complains: Roots ; Sore eyes: Leaf sap ; Headache: powdered root mixed with fat topically applied ; Burn wounds: Powdered bark promote healing; Sterility, respiratory complaints, induce abortion: root and bark (also used in other parts of Africa)	1(165), 2(73), 3(230), 10(62), 69(146)
EUPHORBIACEAE	<i>Macaranga capensis</i> (Baill.) benth. Ex Sim	E: Wild poplar; Z: iphubane	Tree	Channeled valley bottom wetland	EC, KZN, Swa	Bark: skin disease and sunburn	1(167), 69(148)
FABACEAE	<i>Adenopodia spicata</i> (E. Mey.) C. Presl	E: Spiny splinter bean; A: rivierboontjie; Z: ibobo	Climber	Floodplain wetland	KZN, Swa, MP, LP	Root: chest pain	1(127), 69(152)
FABACEAE	<i>Philenoptera violaceae</i> (Klotzsch) Schrire	E: Apple leaf; A: Appelblaar; Z: umphanda	Tree.	Channel (river plus banks)	MP, LP, Bot, Nam & Swa	Roots & leaves	10 8(0), 10(101), 23(NA), 34(539), 37(458), 69(210)
FABACEAE	<i>Psoralea pinnata</i> L. var. <i>pinnata</i>	E: Fountain bush, fountain tree. blue pea; A: bloubos, fonteinbos, bloukeur, keurtjebos, fonteinhout, pinwortel; X: umhlonitshwa, umhlonishwa; Z: umhlongani, umhlonishwa	Shrub	Hillslope seep	WC, EC, KZN, MP, LP, Les & Swa	Hysteria: Roots Medically: whole plant	10(108), 21(641), 23(NA), 34(543), 37(460), 42(0), 44(37), 49(284), 53(166), 56(150), 60(99), 69(46)
JUNCACEAE	<i>Prionium serratum</i> (L.f.) Drege ex E. Mey	A: Palmiet	Perennial herb	Channel (river plus banks)		Food, fibre	69(50)

RANUNCULACEAE	Ranunculus multifidus Forssk.	E: Common buttercup; A: botterblom, kankerblaar, geelbotterblom; SS: hlapi; Sw: uxhaphozi; Z: ishasha-kazane, isijokazane, uxhaphozi	Perennial herb	Channeled valley bottom wetland	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Les, Nam & Swa	Cough, Vomiting, Diarrhoea, Dyspepsia, Sore throat, Cancer, Scabies, Mumps, Venereal sores, Syphilis: Whole plant:	8(252), 10(109), 21(880), 23(NA), 25(241), 34(810), 39(570), 44(33), 46(85), 49(186), 53(156), 54(213), 61(112&1131), 69(64)
RUBIACEAE	Alberta magna E.Mey.	E: Krantzflame-tree, Natal flame bush; A: breekhout; X: umabophe, isiqalane; Z: ibutha-elikhulu, igibampondo	Tree	Channel (river plus banks)	Scattered distribution in ECP & KZN; p538(3)	Bark is reported to be used medicinally	1(297), 3(538), 10(119), 21(896), 69(168)
RUTACEAE	Vepris lanceolata (Lam.) G.Don	E: White ironwood; A: wit ysterhout	Tree	Channel (river plus banks)	WC, EC, KZN, MP, LP & Swa	Colic: Roots Influenza: Roots	80, 10(128), 21(925), 23(NA), 34(851), 37(396), 66(NA), 69(234)

Table 4.2. Most utilised medicinal plants in KwaZulu-Natal occurring in Freshwater ecosystems. (Diederichs, 2006)

Family	Genus and specie name	Other names	Short plant description	Habitat	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
APIACEAE	<i>Alepiodea amatymbica</i> Eckl. & Zeyh. var. <i>amatymbica</i>	E,Z: Kalmoes, kalmos; X: iqwili; Z: ikhathazo	Perennial herb	Margins of forest, damp and grassy slopes, near streams	EC (Amatolas), FS, KZN, MP, LP, Les & Swa	Respiratory ailments, influenza: roots raw or cooked, as snuff or burned roots inhaled; Stomach, abdomen pain, rheumatism, disinfectant: powdered root (rhizomes); Tonic - small dose, purgative - large dose: ?	1(223), 10(16), 31(194), 21(1032)
ASPHODELACEAE	<i>Kniphofia uvaria</i> (L.) Oken	E: Red-hot poker, fire lily, torch lily, Cape poker; A: vuurpyl, ghoesghoeroe, rooisoldate, vuurlelie, stinkaalwyn; Z: icacane	Perennial herb.	Wet places on sandstone slopes	WC, EC & NC	Painful menstruations: Root & bulb; Constipation; Abdominal pain; Stomach complaints; blood purifier; cleaning of wounds, sore chest: leaves & bulb	8(30), 10(81), 21(707), 23(NA), 43(86), 44(6), 49(72), 51(49), 56(60), 62(30)
BALANITACEAE	<i>Balanites maughamii</i> Sprague ssp. <i>maughamii</i>	E: green thorn, y-thorn torchwood; A: groendoring, fakkelhout; Sw: umnulu; Z: ipamu, umgobandlovu	Tree	Hot low altitude bushveld, sand forest often at riverbanks	KZN, MP, LP, GA, Bot & Swa (P61 (2))	General tonic and panacea: cooked bark; Ritual emetics: bark end root decoction; Cough treatment: fruits	1(151), 2(61), 9(52), 10(40), 21(1065)?
FABACEAE	<i>Acacia xanthophloea</i> Benth.	E: fever tree; A: koorsboom; S: umkhanyakudze; S,Z: umhlosinga; Z: umhlofunga, umdluvune, umkhanyakude	Tree	Bushveld riverbanks, low swampy areas, nearly always near water	KZN, MP, LP & Swa; P45 (2) p124 (1), p188 (3), (N Zululand, excl coastel belt)	Malaria and as prophylactic: powdered root, stem and bark; Abdominal pain: cold root infusion as washes?; Fever, eye complaints: bark	1(124), 2(45), 3(188), 10(67), 21(553)

FABACEAE	<i>Schotia brachypetala</i> Sond.	E: African walnut, African greenheart, tree fuchsia, weeping boerboon, South African greenheart, Hottentot's bean tree, weeping boer-bean, fuchsia tree; A: boerboon, huijboerboon, huijboerboom; S: molohe; X: umGxam, iShumnumyane, umfofofo; Z: umGxamu, uVovo, iHluze, uvovovo;	Tree	River and streambanks in valleys	EC, KZN, MP, LP, GA & Swa	Heartburn: Bark Hangover: Bark Nervous conditions: Bark Diarrhoea: Plant	10(111), 21(645 & 646), 23(NA), 24(134), 34(548), 37(424)
GUNNERACEAE (HALORAGACEAE)	<i>Gunnera perpensa</i> L.	E: river pumpkin, wild rhubarb; A: rivier pampoen; S: qobo; Sw: uqobho; V: rambola-vhadzimuz; X: iphuzi lomlambo; Z: imfe-yesele, ug(h)bo;	Perennial herb,	Marshy areas, along stream banks	WC, EC, FS, KZN, MP, LP, NW, GA, Les & Swa; p142 (9)	Induce labour, antenatal - to tone uterus, expulsion of placenta; stomach problems, rheumatic fever swellings, menstrual pain, stomach bleeding, kidney, bladder complaints, psoriasis: Infusion or decoction of rhizome, taken orally or as enema. Externally applied for wound dressing (also used with other species); Fever: bulbs small quantities in emetics, enemas; Coughs, respiratory ailments: bulb decoctions taken;	1(220), 8(578), 9(142), 10(82), 11(0), 31(192), 66(NA)
HYACINTHACEAE	<i>Eucomis autumnalis</i> (Mill.) Chitt. ssp. <i>clavata</i>	E: pineapple fower/plant; A: wildepynappel; Z: umathunga	Geophyte	Damp places, grassland, rock outcrops	EC, FS, KZN, MP, LP, NW, GA, Bot, Les & Swa	Biliousness, lumbago : bulb decoctions as enemas; Syphilis, blood disorders: unspecified parts; Venereal disease, preventing premature childbirth, diarrhoea: ?(bulb used)	1(42), 9(130), 10(84), 28(138)

LILIACEAE	<i>Gladiolus dalenii</i> Van Geel ssp. <i>dalenii</i>	E: Dragon's head lily, parrot lily, Natal lily, sword lily; A: swaardlilie; S: khahle-e-kholo; Sw: sidvwana; Z: isidwi esibomvu, undwendweni	Geophyte	Summer rainfall grasslands	FS, KZN, MP, LP, NW, GA, Bot, Les, Nam & Swa	Treat fertility in women, colds, dysentery: root decoctions. Colds; inhaling of smoke of burning corms (21)	1(63), 8(44)?, 10(87)
LAIURACEAE	<i>Cryptocarya latifolia</i> Sond.	E: broad-leaf wild quince; A: breeblaarkweper, basterswartysterhout; X,Z: umthungwa; Z: umhlangwenya	Tree	In forest on watercourses	KZN & EC; p.106 (3)	Chest complains: bark with crocodile fat; internal pains, muscular cramps, urinary tract diseases, uterine spasm, menstrual pains: bark; bark sometimes used as substitute for bark of <i>Ocotea bullata</i>	1 (107), 2(1), 3(106), 10(92), 21(531)
MELIACEAE	<i>Ekebergia capensis</i> Sparm.	E: Cape ash, dog plum; A: essenhout; S: umnyamatsi; T: anthoma; X: ungwenyobomvu; Z: uvungu, umthoma	Tree	Forest, riverine, bushveld	WC, EC, KZN, MP, LP, GA, Bot & Swa; p218(3), (Coast to midlands in KZN & WC)	As an emetic, dysentery, heartburn: bark; Cough, dysentery, gastritis, headache, scabies: roots; Abscesses, boils, pimples, blood purification, listlessness: ground bark; Skin ailments, chronic coughs, headaches: leaves	1(157), 3(218), 10(96), 15(1), 21(744)31(202)
TYPHACEAE	<i>Typha capensis</i> (Rohrb.) N.E.Br.	E: Bulrush; A: papkuil, vleibiesie; SS: motsitla; Sw: ibhuma; X: ingcongolo, umkhanzi; Z: ibhuma	Perennial herb..	Along water courses in marshy areas	WC, NC, Bot, Les, Nam & Swa	Veneral disease: Root Expulsion of placenta: Root Wounds: Flowers Diarrhoea: Rhizome Urinary problems: Rhizome Bleeding: Rhizome Swelling: Rhizome	2(1), 3(1), 8(560), 10(127), 15(178), 21(1031), 23(NA), 24(192), 25(258), 34(1213), 43(68), 50(107), 53(103)

The plants identified in the two tables give a very good indication of the most important plants utilised in the medicinal trade and that are associated with freshwater ecosystems.

However, for the purpose of this study, Arnold *et al.* (2002) was used as the primary source to identify plants that are considered to be of medicinal value that occurs in freshwater ecosystems. Plant use described as “magical” were not included in the list if that was the only use for the plant.

More than eighty other publications were also consulted to identify medicinal plants that occur in freshwater ecosystems (Appendix 2). This information was also evaluated against personal experience and informal consultations with various stakeholders (J. Mabanga, G. Nicholls, pers. comm.).

It is not always straightforward to classify plants on a regional basis, based on their habitat. Plants may be associated with freshwater ecosystems in one region, but could be considered a grassland species in another region. It is therefore inevitable that some of the plants that are included (or excluded, for that matter) are based on the author’s personal knowledge.

Based on the above assumptions, a provisional list of plants was compiled that could be considered to comply with the requirements of this study. After the workshop, where the criteria were more strictly quantified, the list was reduced. Where information about the following was lacking or uncertain, the plants were removed from the list:

- The medicinal use of the plant is not clear
- Plants that are not indigenous or
- Where the habitat is uncertain.

The information gathered from the literature regarding individual plant species was recorded as follows:

- **Family.**
- **Genus and specie name.**
- **Other names.** This includes local names in various languages. Although local names are not always plant-specific, it is a very handy aid when talking to non-botanists.
- **Plant type.** A standard description was compiled from the short plant description obtained from literature (see Chapter 4.1).
- **Freshwater ecosystem.** From the habitat and personal experience, a freshwater ecosystem, as discussed in Chapter 3.2, was allocated to each specie. The most dominant ecosystem was listed.
- **Habitat.** The habitat was obtained from literature
- **Ecological Role.** The ecological role, as discussed in Chapter 3.4, was used to assess every plant.
- **Distribution.** Distribution at this stage is per province.
- **Disease symptoms:** Plant parts used. The disease that is treated is listed first and then the plant part used for that purpose.
- **Literature with page number.** The literature cited with an accompanying page number is listed. The complete list of references can be found in Appendix 2.

The table in Appendix 3 reflects the data available in the literature as well as the personal experience of the authors and is not necessarily complete.

In order not to lose information that might be of use for further research, plants with insufficient information, but that might have medicinal value, are listed in Appendix 4.

Appendix 5 lists exotic plants utilised for medicinal purposes.

5. Recommendations.

Formal liaison with Herbalists and Traditional Healers

The recommendations and outcome of this project can only be successful if the role-players and stakeholders form an integral part of the planning and execution of these recommendations.

Plant distribution within freshwater ecosystems

The occurrence of medicinal plants should be linked to habitat and role. If this is understood better, propagation requirements as well as resilience to change in habitat can be assessed.

Ecological role of medicinal plants within freshwater ecosystems

The ecological role that medicinal plants play within a particular habitat need to be quantified. Since most medicinal plants only occur in small numbers and low concentrations, it is considered to be important to understand the ecological niche that these plants occupy. It must be noted that there are exceptions where plants can cover fairly large areas. Examples are *Gunnera perpensa* and *Typha capensis*.

Species sensitivity to natural or induced changes to environment

Protection should not only be in terms of overharvesting, but we need to understand the life history of the plant and its ecological requirements in terms of survival when natural conditions change or disappear.

Ex-situ and in-situ propagation (taking distribution and ecological role into account)

Based on the understanding of the plant habitat, ecological role and sensitivity, *ex situ* and possibly in-situ propagation techniques can be developed.

Experience in KwaZulu-Natal (Brian Abrahams, pers. comm.) has indicated that the establishment of a nursery that could supply THPs is not very successful. What is successful is to establish a holding nursery where THPs can acquire stock plants to grow on themselves.

Emphasis should therefore be on the training of THPs and herb gatherers to enable them to propagate their own medicinal plants.

Chemical analysis of selected species.

Although the medicinal use of plants are well documented, only a small percentage of plants utilised for medicinal purposes and associated with freshwater systems have been subjected to detailed scientific scrutiny.

A large number of trees have also been studied for their medicinal properties. Often the plants are medicinal when alkaloid-, glucoside-, terpenoid- esters, acids or volatile oil compounds are found in the plants.

Plants that are considered important in this regard are listed in Table 5.5. This list is by no means exhaustive.

Table 5.5 Forest and woodland species that warrant further research (Lawes, 2004):

Plant Name	Part to be investigated
Apodytes dimidiata	Leaves
Cryptocarya woodii	Bark/leaves
Ekebergia capensis	Bark/roots
Phygelius capensis	Leaves
Trichilia emetica	Leaves, bark
Trichilia dregeana	Bark

Alternative plant parts that can be utilised

In those cases where some of the medicinal plants are difficult to propagate, or raw material become scarce, alternatives should be investigated, such as using the leaves instead of bark and roots to ensure survival of the plants. The University of Pretoria is currently involved in such studies, but not necessarily related to plants that occur in freshwater ecosystems.

Plant protection measures

With a thorough understanding of the plant habitat, ecological role and sensitivity, *ex situ* plant protection measures should be developed. Also given that higher plants such as trees take a relatively long time to mature if domesticated, sustainable harvesting regimes should be practiced and rolled out.

Knowledge dissemination

Knowledge dissemination should focus on the following:

- Understanding plant habitat, ecology and protection
- Training in propagation techniques
- Importance of correct harvesting times
- Importance of correct harvesting techniques

Regional assessment

From the current desktop study, it would appear that the medicinal plants occurring in KwaZulu-Natal have received the most attention due to the large quantity of plants in this high rainfall region of South Africa.

It is recommended that other regions also be identified and that focus be placed on them.

Due to the fact that this study focuses on medicinal plants occurring in freshwater ecosystems, these areas will have to comply with these criteria. Possible areas could include:

Western Cape Mountains

Barberton Centre

Wolkberg centre

Soutpansberg centre

Sekhukune centre (Van Wyk and Smith, 2001)

Pilot projects

Once regional studies that complement existing studies have been identified, pilot projects could be initiated in these areas. It could focus on freshwater associated plant studies in respect of use, habitat, propagation and awareness building.

Ideally, these projects should be linked to local tertiary institutions, for example, a pilot study in the Soutpansberg and Wolkberg can be under the auspices of the University of Venda; and a study in the Western Cape mountains can be under the auspices of the University of the Western Cape.

Concluding remarks

It must be accepted that the use of plants for medicinal purposes is ingrained in the fabric of our society. What is needed is the assurance that our children (and their children.....) will still be able to reap the benefits that nature provides.

Freshwater ecosystems, as described in this paper, play a crucial role, since almost half of the plants used medicinally, occur in these habitats.

Since this market/trade operates predominantly in the informal sector, there are still many unknowns and ample opportunity for research.

One of the biggest short-term challenges is the assurance of supply of the raw material. Most of the raw material is gathered in the wild where it is known that the populations are declining at an alarming rate (Lawes, 2004). However, there are sufficient laws in place in South Africa to ensure the protection of medicinal wetland plants. What is required is the cooperation of the THPs and herb gatherers to harvest in a sustainable manner.

Certain herbs and bulbs can be grown *ex situ* and can be market-ready within 2 to 3 years. The same is not true for most trees where the bark is utilised. Trees may take up to 15 years to be mature enough before they can be harvested again. For example, *Ocotea bullata* (black stinkwood) is, for practical purposes, extinct in KwaZulu-Natal outside protected areas. Bark is currently imported from Swaziland and Mozambique. The harvesting in these countries is also not sustainable and importation is not a long-term solution.

References

- Arnold T.H., Prentice C.A., Hawker LC, Snyman EE, Tomalin M, Crouch NR & Pottas-Bircher C. (2002). *Medicinal and magical plants of southern Africa: an annotated checklist*. Strelitzia 13, National Botanical Institute, Pretoria. ISBN 1-919795-62-6, 203pp.
- Bertoli GC. (1996) Aquatic vegetation of the Orinoco River Delta (Venezuela). An overview. *Hydrobiologia*, **340**, 109-113.
- Bromilow C. (2010) *Probleemplanten en indringeronkruiden van Suid-Afrika*. BRIZA. Pretoria, South Africa. 423pp.
- Byrne M, Hill M, Robertson M, King A, Jadhav A, Katembo N, Wilson J, Brudvig R and Fisher J. (2010) *Integrated management of water hyacinth in South Africa: Development of an integrated management plan for water hyacinth control, tailored to the climatic regions of South Africa*. WRC Technical Report TT 454/10. Pretoria, South Africa. 285pp.
- Cowardin LM, Carter V, Golet FC and LaRoe ET (1979). *Classification of Wetlands and Deepwater Habitats of the United States*. FWS-OBS-79-31. US Fish and Wildlife Service, Washington, DC.
- Cowan, G.I. 1995 (ed.) *Wetlands of South Africa*. SA Wetlands Conservation Programme Series. Department of Environment Affairs and Tourism. Pretoria.
- Dada R, Kotze D, Ellery W and Uys M (2007) *WET-RoadMap: A guide to the wetland management series*. Breen, C, Dini, J, Mitchell S and Uys M (Series editors). WRC Technical Report TT 321/07. Pretoria, South Africa. 20pp.
- Davies, B.R. & Day J.A. (1998). *Vanishing Waters*. University of Cape Town Press, Cape Town.
- Day, K & McKonkey, G 2006. *Water: Water quality*. Cape Peninsula University of Technology, Cape Town, South Africa.
- Department of Science and Technology (DST) (2008?). *Technology for Sustainable livelihoods*. www.dst.gov.za/other/gpc/MedPlantsActivities.pdf
- Dickens C, Kotze D, Mashigo S, MacKay H and Grahm M. (2003) *Guidelines for integrating the protection, conservation and management of wetlands into catchment management planning*. WRC Technical Report TT 220/03. Pretoria, South Africa. 104pp.
- Dollar, E.S.J., Brown, C.A., Turpie, J.K., Joubert, A.R., Nicolson, C.R. and Manyaka, S. (2006). *The development of the Water Resource Classification System (WRCS). Volume 1. Overview and 7-step classification procedure*. CSIR Report No., Department of Water Affairs and Forestry, Pretoria, 70pp.

- Dugmore, H. and Van Wyk, B-E. (2008). *Muti en mites uit Afrika*. 1st Edition. Marula Books. ISBN 978-0-9802599-1-9. 128pp.
- Ecological Society of America. (2003). *Sustaining healthy freshwater ecosystems*. Issues in Ecology Number 10.
- Eloff JN (1999). *The antibacterial activity of 27 southern African members of the Combretaceae*. S Afr J Sci 95:148 - 152.
- Eloff JN (2001). *Antibacterial activity of Marula (Sclerocarya birrea) (A. Rich) Hochst. Subsp. caffra (Sond.) Kokwaro (Anacardiaceae) bark and leaves*. J Ethnopharmacol 76:305 - 308.
- Eloff JN, Jager AK, Van Staden J (2001). *The stability and the relationship between anti-inflammatory activity and antibacterial activity of southern African Combretum species*. S Afr J Sci 97:291 - 292.
- Eloff JN (2000). *A proposal on expressing the antibacterial activity of plant extracts – a small first step in applying scientific knowledge to rural primary health care in South Africa*. S Afr J Sci 96:116 - 118.
- Eloff JN (2004). *Quantifying the bioactivity of plant extracts during screening and bioassay-guided fractionation*. Phytomed 11:370 - 371.
- Eloff JN, Famakin JO, Katerere DRP (2005). *Combretum woodii (Combretaceae) leaf extracts have high activity against Gram-negative and Gram-positive bacteria*. Afr J Biotechnol 4:1161 - 1166.
- Eloff JN, McGaw LJ (2006). *Plant extracts used to manage bacterial, fungal, and parasitic infections in southern Africa*. In: Ahmad I, Owais M (Eds) Modern phytomedicine: Turning Medicinal Plants into Drugs, pp 113.
- Eloff JN, Katerere DR, McGaw LJ (2008). *The biological activity and chemistry of the southern African Combretaceae*. J Ethnopharmacol 119(3):686 - 699.
- Ellery K and Ellery W. (1997) *Plants of the Okavango Delta. A field guide*. Tsaro Publishers. Durban, South Africa. 225pp.
- Hutchings A, Scott AH, Lewis G & Cunningham A (1996). *Zulu medicinal plants: An inventory*. University of Natal. ISBN 086986980 893 1
- Kellerman, T.S., Coetzer, J.A.W., Naude, T.W. and Botha, C.J. (2005). *Plant poisonings and mycotoxicosis of livestock in southern Africa*. 2nd Edition, Oxford University Press, Cape Town, South Africa. ISBN 978 0 19 57613 4. 310pp.
- Lawes, M. J., Eely, H. A. C., Shackleton, C. M. and Geach, B.G.S. (editors) (2004). *Indigenous forests and woodlands in South Africa: Policy, Pple and Practice*. University of KwaZulu-Natal press, Pietermaritzburg. ISBN 1 86914 050 8. 863pp.

- Moss, B. (1998) *Ecology of fresh waters: man and medium, past to future*. 3rd Edition. Blackwell Science, United Kingdom. ISBN 0-632-03512-9. 557pp.
- Neuwinger, H.D. (1994). *Afrikanische Arzneipflanzen und Jagdgifte: Chemie, pharmakologie, toxikologie*. Wissenschaftliche Verlagsgesellschaft mbH, Stuttgart, Germany. ISBN 3-8047-1314-9. 841pp.
- Noble, R.G. & Hemens, J (1978) *Inland water ecosystems in South Africa – a review of research needs*. South African National Scientific Programmes Report No. 34 CSIR Pretoria 150 pp.
- Sainty, G.R. and Jacobs, S.W.L. (1994) *Waterplants in Australia*. CSIRO, Darlinghurst, Australia. 327pp.
- SANBI (2009). *Further Development of a Proposed National Wetland Classification System for South Africa*. Primary Project Report. Prepared by the Freshwater Consulting Group (FCG) for the South African National Biodiversity Institute (SANBI).
- Suid-Afrikaanse Akademie vir Wetenskap en Kuns (SAAW&K) (2010) *Volksgeneeskuns in Suid-Afrika: 'n Uitgebreide versameling boererate*. Protea Boekhuis, Pretoria, South Africa. ISBN 978-1-86919-356-0. 639pp.
- Van Wyk, A. E., Smith, F. S. (2001). *Regions of floristic endemism in Southern Africa*. Umdaus Press, Pretoria. ISBN 1-919766-18-9. 199pp.
- Van Wyk, B-E., Van Oudtshoorn, B. and Gericke, N. (2000). *Medicinal plants of South Africa*. 2nd Edition, BRIZA, Pretoria. ISBN 1 875093 09 5. 304pp
- Van Wyk, B-E., Van Heerden, F. and Van Oudtshoorn, B. (2002). *Poisonous plants of South Africa*. BRIZA, Pretoria, South Africa. ISBN 1 875093 30 3.
- Van Wyk, B-E. and Gericke, N. (2003). *People's plants: A guide to useful plants of Southern Africa*. 1st Edition, BRIZA, Pretoria, South Africa. ISBN 1 875093 19 2. 351pp
- Van Wyk, B-E. and Wink, M. (2004) *Medicinal plants of the world*. 2nd Edition, BRIZA, Pretoria. ISBN 1 875093 44 3. 480pp
- Water Research Commission. (2001). *State of the rivers report: Crocodile, Sabie-Sand and Olifant River Systems*. WRC Report No. TT 147/01.
- Watt, J. M., and Breyer-Brandwijk, M. G. (1962). *Medicinal and poisonous plants of southern and eastern Africa*. 2nd Edition, E & S Livingstone Ltd, Edinburgh, Great Britain. 1457pp
- Wetzel RG (2001) *Limnology, lake and river ecosystems*. Academic Press. San Diego, USA. 1006pp.

Internet Websites

<http://www.ecy.wa.gov/programs/sea/wetlands/functions.html>, 2011

<http://www.answers.com/topic/ecology-1#ixzz1FWUGIU08>, 2011

<http://dictionary.reference.com/browse/ecological>, 2011

<http://www.answers.com/topic/ecology-1#ixzz1FWUNpkUI>, 2011.

Appendices

The following appendices are attached:

Appendix 1: Outcome of Workshop held at WRC on 15 February 2011. This is a summary of discussions and recommendations that emanated from the workshop

Appendix 2: Literature consulted to compile list of medicinal plant species associated with freshwater ecosystems.

Appendix 3: List of medicinal plants occurring in freshwater ecosystems

Appendix 4: List of plants occurring in freshwater ecosystems that might be utilised for medicinal purposes.

Appendix 5: List of exotic plants occurring in freshwater ecosystems that is utilised for medicinal purposes.

Appendix 1: Outcome of Workshop held at WRC on 15 February 2011.

Contract K8/971: Distribution, use and ecological roles of the medicinal plants confined to freshwater ecosystems in South Africa

Discussion notes from the workshop that took place on 15 February 2011 from 09:00 to 13:00 at the offices of the Water Research Commission, Pretoria.

Present:

- | | |
|-------------------------------|---|
| 1. Prof Kobus Eloff | University of Pretoria |
| 2. Ms Althea Grundlingh | Agricultural Research Commission |
| 3. Mr Judd Kinkel | Private Sector, Consultant |
| 4. Mr Jabulani Mabanga | Herbalist |
| 5. Ms Carina Malherbe | Department of Environmental Affairs |
| 6. Mr Gary Marneweck | Private Sector, Consultant |
| 7. Mr Masilo Mashatole | Department of Environmental Affairs |
| 8. Dr Lyndy McGaw | University of Pretoria |
| 9. Mr Eric Munzhedzi | SANBI |
| 10. Mr Ntambudzeni Nephumembe | Department of Environmental Affairs |
| 11. Mr Ramogale Sekwele | Department of Water Affairs |
| 12. Mr Peter Tshisikhawe | University of Venda |
| 13. Dr Carin van Ginkel | Researcher and co-leader of the project |
| 14. Dr Johan Wentzel | Project Leader |
| 15. Ms Annette Wentzel | Scribe |

Background

Drs Johan Wentzel and Carin van Ginkel are currently busy with a desktop study on the distribution, use and ecological roles of medicinal plants confined to freshwater ecosystems in South Africa. (Water Research Commission contract K8/971) The aim of the workshop is to discuss the results of the project and to obtain the input of other specialists regarding the aims of the current study).

Arnold et al (2002) compiled an annotated checklist of all medicinal plants recorded in South Africa. This list was used to select medicinal plants that occur in freshwater ecosystems and other references were consulted to expand on this. In the desktop study the team made use of numerous publications on the subject. The list also reflects the personal experience of the authors as well as that of various other experts in the field. A list of almost 500 plants were recorded, including the plant family; genus and species names; synonyms; other indigenous/common names; classification; description of the plant; habitat; disease symptoms and plant parts used; provincial distribution; and relevant publications where the information was found.

Recommendations from the participants to the project team:

- The information collected and the list produced by the team, through the desktop study is very important.

- The focus should be to look at the **sustainable use** of the medicinal plants and how to **protect** the plants and their habitats. The project should not lose sight of the need to protect the habitat and the plants.
- More Herbalists and Traditional Healers should be consulted to get their inputs on which plants are used and what are, in their views, the priorities.
- Although there is a concern that collectors may not be sensitive to the sustainable utilisation of the medicinal plants, it is balanced by the knowledge of the Herbalists and Traditional Healers, who are the buyers and consumers.
- The project should take note of the fact that through the research done by universities it has been proven that many of the diseases can be cured by using the leaves of the plant, instead of the bark or roots, which are a very destructive way of collecting.
- The project should not only address research but the knowledge/ information should be made available to benefit the communities.
- It is important to state that the project will only deal with indigenous plants.
- The correct definition for “.. plants confined to freshwater ecosystems in South Africa” should be used in line with SA legislation to reduce the current list.
- Freshwater ecosystems: “Plants that occur in freshwater habitats associated with riparian and wetland ecosystems, that survive permanent or temporarily in saturated anaerobic conditions – excluding coastal estuarine systems.”
- The definition of “riparian” and “wetland” should be taken from the national Water Act.
- Medicinal plants: “Plants containing chemical compounds with therapeutic properties.”
- Plants that do not “qualify” in terms of the above definitions should be taken out of the current list.
- Criteria selection: Make use of the IUCN threatened or protected list (TOPS).
- The project team will send the reduced list to the participants of the workshop to request comments.
- The project team could also consult the internet; the Medical Research Council web site; and Vinesh Maharaj at CSIR.
- The project team should then try to discuss the reduced and amended list with Prof Ben-Erik van Wyk to assist with the classification as well as to prioritise plants in terms of further research..
- Any information that has been published about medicinal value and use of plants may be used. However, should the project require the use of new indigenous knowledge, the Department of Environmental Affairs (Ms Carina Malherbe) should be consulted about the process that needs to be followed.
- For further research it is important to look at the possibility of plants that occur in freshwater ecosystems but which have not been recorded with medicinal value.
- Although exotic and invasive plants already occur in freshwater ecosystems and are used for medicinal purposes, it is important to state that the optimal use of these plants should be encouraged but not the propagation thereof.

- The importance of the plants in terms of their ecological functioning should get attention in a next phase of the study.

Road ahead:

- Emphasis should be on the sustainable use as well as the protection of the plant species and their habitats.
- Further research is needed on species with potential medicinal value but has not been recorded as such.
- Safety and toxicity: exclude plants with a narcotic potential.
- In those cases where some of the medicinal plants are difficult to propagate, alternative sustainable uses should be investigated, such as using the leaves (or extracts from the leaves) instead of bark and roots.
- The possibility of cooperation with the Council of Traditional Healers should be investigated. The formal structures should be involved. They are an important partner in this project.
- The project should focus on traditional medicinal uses only, and exclude plants with magical properties at this stage.
- Special attention should be given to threatened plants.
- The project can consider compiling a list of the most important plants [perhaps 10] that can be considered for further research.
- Protection should not only be in terms of overharvesting, but we need to understand the life history of the plant and its ecological requirements in terms of survival when natural conditions change or disappear.
- The change of natural conditions and the impacts thereof on medicinal plants in freshwater ecosystems has apparently not been investigated and research in this regards is of the utmost importance to South Africa.
- It is important that the project develop knowledge that will bring a better understanding of the ecological niche of the medicinal plants confined to freshwater ecosystems.
- Understanding the conditions under which these plants grow, will also assist in those cases where it is difficult to propagate the medicinal plants confined to freshwater ecosystems.
- The list of plant species should specify the plant use categories. This could assist when alternative species are proposed for the same use.
- Harvest times of the plants are an important factor that needs to be considered. Plants can be destroyed if they are harvested at the wrong time of the year.
- Propagation of plants can be done in situ by communities, and ex situ by nurseries. Priority should be given to those medicinal plants that are worth spending research time on and plants that will be to the benefit of the communities.
- The project must caution against in situ propagation that has the potential to destroy the ecosystem where the plants occur.
- Cultivating medicinal plants at the many sewage works in South Africa has the potential of job creation and should be investigated.

- The project has the potential to change the important contribution of our indigenous plants in terms of their medicinal value.
- Development of publications [brochures] could be one of the outcomes of the project. These publications should communicate the findings of the project in a way that will benefit communities.
- It should be recognised that different regions have different traditional knowledge of the medicinal plants, but that the project should serve the whole country.
- An important factor that needs to be investigated is how the medicinal plants, confined in freshwater ecosystems, are distributed. Some wetland plants only occur at certain locations. There are three riparian zones where plants occur and this aspect has not been addressed. The value of this information, should it become available, is extremely important as it can be incorporated into the national RDM process and as well as the RQOs.
- The project can make use of the vegetation map that was published in 2006 (Mucina and Rutherford) to indicate distribution of the plants nationally. This information should be taken one step further, namely also indicate the different zones where it occurs.
- The project should be linked to the legislative mandate of the Department of Environmental Affairs, using the Biodiversity Management Plans as a starting point and use plants that occur in freshwater ecosystems that are under threat.
- For this project the plants are important and not necessary the application [people and/or animals].
- Field work/visits should be part of the project, as new plant materials are still discovered, for example De Hoop Dam.
- A photo data base of the plants, bark, leaves, etc. should be kept updated during field work.
- Marketing should not be part of this project.

Project team should include, but not limited to the following:

- Scientists actively involved in multidisciplinary medicinal plant research
- Government representatives, including Water Affairs, Environmental Affairs, Health, Provincial Government.
- Wetland ecologists.
- Botanists/SANBI.
- Research institutes such as the ARC, CSIR [Vinesh Maharaj].
- Universities. They should use the information from the project to transfer knowledge. Specific names mentioned: Prof Roy van Brummelin; Gerhard Prinsloo.
- Council of Traditional Healers. Specific name to be provided by Carina Malherbe.

Appendix 2. Literature consulted to compile the list of medicinal plant species associated with freshwater ecosystems.

The number in brackets refers to the reference provided in Appendix 3.

- (10) Arnold T.H., Prentice C.A., Hawker LC, Snyman EE, Tomalin M, Crouch NR & Pottas-Bircher C. (2002). Medicinal and magical plants of southern Africa: an annotated checklist. *Strelitzia* 13, National Botanical Institute, Pretoria. ISBN 1-919795-62-6, 203pp
- (31) Batten, A. and Bokelman, H. (1966). Wild flowers of the Eastern Cape Province. Books of Africa
- Bean, A. & Johns, A. (2005). Stellenbosch to Hermanus. South African wild flower guide 5. 2nd Revision. Bot Soc SA, Cape Town, South Africa. ISBN 1-874999-58-9, 338pp
- (3) Boon, R. (2010). Pooley's trees of Eastern South Africa. 2nd edition. Flora & Fauna Publications. ISBN 978-0-620-46019-4
- (17) Bromilow, C. (2010). Probleemplanten en indringeronkruiden van Suid-Afrika. 2nd edition, 1st print. BRIZA, Pretoria, South Africa. ISBN 987-1-920217-31-0, 424pp
- (25) Cook, C. D. K. (2004). Aquatic and wetland plants of Southern Africa. 1st Edition. Backhuys Publishers, Leiden, The Netherlands. ISBN 90-5782-142-7. 281pp
- (44) Courtney-Latimer M., Smith G.G., Bokelmann H. and Batten A. (1967). The flowering plants of the Tsitsikama forest and Coastal National Park. National Parks Board. 64pp.
- Cunningham AB (2001). Applied ethnobotany. People, wild plant use and conservation. In People and Plants Conservation Manuals. London, EarthScan
- (45) Dugmore, H. and Van Wyk, B-E. (2008). Muti en mites uit Afrika. 1st Edition. Marula Books. ISBN 978-0-9802599-1-9. 128pp.
- (15) Ellery, K. and Ellery, W. (1997). Plants of the Okavango Delta. 1st Edition. Tsaro Publishers, Durban, South Africa. ISBN 1-86840-240-1. 225pp.
- (34) Germishuizen, G. and Meyer, N. L. (2003). Plants of Southern Africa: an annotated checklist. *Strelitzia* 14, Pretoria, South Africa. ISBN 1-919795-99-5. 1231pp
- (65) Glen HF & Germishuizen G. (2010). Botanical exploration of Southern Africa – Ed 2; *Strelitzia* 26. SANBI, Pretoria. ISBN 978-1-919976-54-9. 589pp.

- (41) Goldblatt, P. and Anderson, F. (1986). The Moraeas of Southern Africa. CTP Printers, Cape Town, South Africa. ISBN 0 620 09974 7. 224pp.
- (12) Goldblatt, P. and Manning, J. (1998). Gladiolus in Southern Africa. 1st edition. Fernwood Press, Vlaeberg. ISBN1 874950 32 6. 320pp
- (38) Goldblatt, P. and Manning, J. (2000). Cape plants. A conspectus of the Cape flora of South Africa. Strelitzia 9. NBI & MBG, Pretoria, South Africa. ISBN 0-620-26236-2. 743pp.
- (7) Grant, R. and Thomas, V. (1998). Sappi tree spotting: KwaZulu-Natal Coast and Midlands: tree identification made easy. Jacana Media (Pty) Ltd, Johannesburg. ISBN 1-874955-51-4. 414pp
- (6) Grant, R. and Thomas, V. (2001). Sappi tree spotting: Lowveld. Jacana Media (Pty) Ltd, Johannesburg. ISBN1-919777-776.
- (57) Grant, R. and Thomas, V. (2008). Sappi tree spotting: Cape from coast to Kalahari. Jacana Media (Pty) Ltd, Johannesburg. ISBN 978-1-77009-082-8. 416pp.
- (48) Henderson, L. (2001). Alien weeds and invasive plants. Paarl printers, Cape Town, South Africa. ISBN 1-86849-192-7. 299pp.
- (53) Hilliard, O.M. and Burtt, B. L. (1987). The botany of the Southern Natal Drakensberg. CTP Book Printers, Cape Town, South Africa. ISBN 0 620 10625 5. 253pp.
- (36) http://database.prota.org/PROTAhtml/Nasturtium%20officinale_En.htm 2010
- (35) <http://plants.jstor.org/flora/floc010319>. 2010 JSTOR Plant Science
- (81) <http://plants.jstor.org/>. 2011
- (72) <http://plants.jstor.org/flora/flosa0001602206000037>, 2011
- (73) http://database.prota.org/dbtw-wpd/exec/dbtwpub.dll?ac=qbe_query&bu=http://database.prota.org/search.htm&tn=protab~1&qb0=and&qf0=Species+Code&qf1=Aloe+buettneri&rf=Webdisplay, 2011
- (40) <http://www.pfaf.org/user/Plant.aspx?LatinName=Typha%20domingensis> 2010
- (74) http://www.nationalredlist.org/App_Files_Uploaded/SwazilandPlant.pdf. 2011
- (75) <http://www.sntc.org.sz/flora/clusagelist.asp?uid=2&pg=28>. 2011

- (67) <http://www.nutrition-and-you.com/saffron.html> 2011
- (76) http://keys.trin.org.au:8080/key-server/data/0e0f0504-0103-430d-8004-060d07080d04/media/Html/taxon/Ipomoea_indica.htm. 2011
- (77)
http://books.google.co.za/books?id=UXaQat5icHUC&pg=PA669&lpg=PA669&dq=%27Ipomoea+indica%27+medicinal+uses&source=bl&ots=RZ7751fHoR&sig=00gg7YAZJzor3U71C7FPaym4JNA&hl=en&ei=9NZ5Td6MAYmFhQe2p53pBg&sa=X&oi=book_result&ct=result&resnum=4&ved=0CC4Q6AEwAw#v=onepage&q=ipomoea%20indica&f=false. 2011
- (78) <http://ayurvedicmedicinalplants.com/plants/844.html>. 2011
- (79) http://www.metafro.be/prelude/view_plant?pi=08020. 2011.
- (26) Hulme, M. M. (1954). Wild flowers of Natal. . Shuter and Shooter, Pietermaritzburg.
- (1} Hutchings A, Scott AH, Lewis G & Cunningham A. (1996). Zulu medicinal plants: An inventory. University of Natal. ISBN 086986980 893 1
- (30) Joffe, P. (2003) Indigenous shrubs. BRIZA, Pretoria, South Africa. ISBN1 875093 40 0.
- (54) Kellerman, T.S., Coetzer, J.A.W., Naude, T.W. and Botha, C.J. (2005). Plant poisonings and mycotoxicosis of livestock in southern Africa. 2nd Edition, Oxford University Press, Cape Town, South Africa. ISBN 978 0 19 57613 4. 310pp
- (52) Kesting, D. and Clark, H. (2008). Botanical names: What they mean. 3rd Edition. Ink & print, Port Elizabeth, South Africa. ISBN 978-0-620-42414-1. 100pp
- (28) Killick, D. (1990). A field guide to the flora of the Natal Drakensberg. Jonathan Ball and Ad. Jonker. ISBN 0 947464 35 2.
- (51) Le Roux, A. (2005). Namaqualand. South African wild flower guide 1. 3rd Edition, Associated Printing Cape Town, South Africa. ISBN 1-874999-30-9. 336pp
- (13) Linder, H.P. and Kurzweil, H. (1999). Orchids of Southern Africa. 1st Edition, AA Balkema, Rotterdam, Netherland. ISBN 90 5410 445 7. 492pp.
- (66) Mabanga, Jabulani. (2011). Personal communication (Herbalist)
- (49) Manning, J. (2009). Field guide to wild flowers of South Africa. 1st Edition, Struik Nature, Cape Town, South Africa. ISBN 978 1 77007 758 4. 487pp.

Manning, J. and Goldblatt, P. (2007). Nieuwoudtville Bokkeveld Plateau & Hantam, South African wild flower guide 9. 1st Edition, 2nd Impression. Bot Soc SA, Claremont, South Africa. ISBN 1-874999-17-1. 204pp.

(62) Manning, J. and Goldblatt, P. (2007). West Coast: South African wild flower guide 7. 1st Edition; 2nd Impression. Bot Soc SA, Kirstenbosch, Claremont. ISBN1-874999-11-2. 240pp.

(14) McMurty, D., Grobler, L., Grobler, J. and Burns, S. (2008). Field guide to the Orchids of Northern South Africa and Swaziland. 1st Edition, Umdaus Press, Hatfield, South Africa. ISBN 978-1-919766-46-1. 484pp.

(58) Moffett, R. (1997). Grasses of the Eastern Free State: Their description and uses. UNIQWA, Phuthaditjhaba. ISBN 0-9584209-1-2. 288pp.

(64) Munday, J. (1988). Poisonous plants in South African Gardens. 1st Edition, Delta Books (Pty) Ltd, Craighall, South Africa. ISBN 0908387 57 1. 142pp.

(56) Mustart, P., Cowling, R., Albertyn, J. and Paterson-Jones, C. (2003). Southern Overberg: South African wild flower guide 8. 1st Edition; 2nd Impression, Bot Soc SA, Cape Town, South Africa. ISBN 1-874999-15-5. 271pp.

(20) Neuwinger, H.D. (1994). Afrikanische Arzneipflanzen und Jagdgifte: Chemie, pharmakologie, toxikologie. Wissenschaftliche Verlagsgesellschaft mbH, Stuttgart, Germany. ISBN 3-8047-1314-9. 841pp.

(60) Onderstall, J. (1996). Wild Flower Guide: Mpumalanga & Northern Province. DynamicAd, Nelspruit, South Africa. ISBN 0-620-20523-7. 266pp.

Palmer, E. and Pitman, N. (1972). Trees of South Africa. (3 Volumes). A.A.Balkema. ISBN 0 86961 033 3.

(61) Pearse, R. O. (1978). Mountain splendour: The wild flowers of the Drakensberg. Howard Timmins, Cape Town, South Africa. ISBN 0 86978 156 1. 239pp.

(8) Pooley, E. (2005). A field guide to wild flowers KwaZulu-Natal and the eastern region. 1st Edition, 2nd Impression. Flora Publications Trust, Durban. ISBN 0-620-21500-3. 630pp.

(50) Powrie, L. (2004). Common names of Karoo plants. Strelitzia 16, NBI, Pretoria, South Africa. ISBN 1-874907-16-1. 199pp.

(39) Retief, E. and Herman, P.P.J. (1997). Plants of the northern provinces of South Africa: keys and diagnostic characters. Strelitzia 6, NBI, Pretoria, South Africa ISBN 1-874907-30-7. 681pp.

- (63) Robelo, T. (2001). Proteas: A field guide to the proteas of Southern Africa. 2nd Edition, Fernwood Press, Vlaeberg, South Africa. ISBN 1 874950 40 7. 240pp.
- (46) Rood, B. (2008). Uit die veldapteeek. 2nd Edition, Protea Boekhuis, Pretoria, South Africa. ISBN 978-1-86919-274-7. 116pp.
- (47) Roodt, V. (1998). Common wild flowers of the Okavango Delta; Medicinal uses and nutritional value. Shell Oil Botswana, Gaborone, Botswana. ISBN 99912-0-242-0. 174pp.
- (70) Sainty, G. R. and Jacobs, S. W. (1994). Waterplants of Australia. CSIRO, Australia. ISBN 0 646 15939 9
- (23) Schelpe, E.A.C.L.E. and Anthony, A.C. (1986). Flora of Southern Africa: Pterydophyta. Botanical Research Institute, Pretoria, South Africa. ISBN 0 621 08877 3. 292pp.
- (27) Schmidt, E. et al. (2007). Trees and shrubs of Mpumalanga and the Kruger National Park. Jacana Media. ISBN 978-1-77009-375-1
- (24) SIBIS database 2010 <http://sibis.sanbi.org/> SANBI Pretoria, South Africa
- (83) Simpson, E. (2002). Essential A-Z of herbal remedies. Caxton Publishing Group Ltd, London, UK. 160pp
- (29) Smith, C. A. (1966). Common names of South African plants. Botanical survey memoir 35, Government Printer, Pretoria, South Africa.
- (59) Smith, T. (2006). Wild Flowers of the Table Mountain National Park. Bot Soc SA, Cape Town, South Africa. ISBN 1 874999 60 0. 314pp.
- Steward, J. et al. (1982). Wild orchids of South Africa. Macmillan SA. ISBN 0 86954 070 X
- (71) Tefelo, P.B., Moundipa, P.F., Tchana, A.N., Tchouanguap Dzickotzecz, C. and Mbiapo, F.T. (1998). Effects of an aqueous extract of *Aloe buettneri*, *Justicia insularis*, *Hibiscus macranthus*, *Dicliptera verticillata* on some physiological and biochemical parameters of reproduction in immature female rats. *Journal of Ethnopharmacology*, 63(3), 193-200.
- (5) Thomas, V. and Grant, R. (2002). Sappi tree spotting: Highveld and Drakensberg. 1st Edition, Jacana Media (Pty) Ltd, Johannesburg. ISBN 1-919777-85-1.
- (4) Thomas, V. and Grant, R. (2004). Sappi tree spotting: KwaZulu-Natal & Eastern Cape. 1st Edition, Jacana Media (Pty) Ltd, Johannesburg. ISBN. 1-77009-038-X. 315pp.

- (19) Vahrmeijer, J. (1981). Gifplante van Suid Afrika wat veeverliese veroorsaak. Tafelberg, Kaapstad, South Africa. ISBN 0 624 01460 6. 168pp
- (69) Van der Walt, J. J. A. and Vorster, P. J. (1977). Pelargoniums of South Africa. (three volumes). Purnell and Sons. ISBN 0 86843 006 4.
- (16) Van der Walt, R. (2009). Wild flowers of the Limpopo Valley. 1st Edition, Retha van der Walt, Musina, South Africa. ISBN 978-0-620-43949-7. 394pp
- (18) Van Ginkel, C. E., Glen, R.P., Gordon-Gray, K.D., Cilliers, C.J., Muasya, M. and Van Deventer, P.P. (2010). Easy identification of some South African Wetland Plants (Grasses, restios, sedges, rushes, bulrushes, eriocaulons and yellow-eyed grasses). In press, WRC, Pretoria, South Africa. 390pp
- (68) Van Oudtshoorn, F. (2006). Guide to the grasses of South Africa. 2nd Edition; 4th Impression, Briza, Arcadia, Pretoria. ISBN 1 87509301706. 288pp.
- (37) Van Wyk, B. and Van Wyk, P. (1997). Field guide to trees of Southern Africa. Struik, Cape Town, South Africa. ISBN 1 86825 922 6. 536pp.
- (25) Van Wyk, B-E. and Gericke, N. (2003). People's plants: A guide to useful plants of Southern Africa. 1st Edition, BRIZA, Pretoria, South Africa. ISBN 1 875093 19 2. 351pp
- (11) Van Wyk, B-E. and Wink, M. (2004) Medicinal plants of the world. 2nd Edition, BRIZA, Pretoria. ISBN 1 875093 44 3. 480pp
- (9) Van Wyk, B-E., Van Oudtshoorn, B. and Gericke, N. (2000). Medicinal plants of South Africa. 2nd Edition, BRIZA, Pretoria. ISBN 1 875093 09 5. 304pp
- (33) Van Wyk, B-E. et al. (2002). Poisonous plants of South Africa. BRIZA, Pretoria, South Africa. ISBN 1 875093 30 3.
- (2) Van Wyk, B., Van Wyk, P. and Van Wyk, B-E. (2008). Photo guide to trees of Southern Africa. 2nd edition, BRIZA, Pretoria. ISBN 978 1 920217 04 4. 360pp.
- (82) Venter, F. And Venter, J-A. (2009). Making the most of indigenous trees. 2 Ed, 4 Imp, BRIZA Pretoria, South Africa. ISBN 978 1 875093 33 5, 320pp
- (80) Von Ahlefeldt, D., Crouch, N. R., Nichols, G., Symmonds, R., Mckean, S., Sibiya, H. and Cele, M. P. (2003). Medicinal plants traded on South Africa's eastern Seaboard. eThekweni parks Department and University of Natal, Durban. ISBN 0-620-31569-5. 267pp
- (21) Watt, J. M., and Breyer-Brandwijk, M. G. (1962). Medicinal and poisonous plants of southern and eastern Africa. 2nd Edition, E & S Livingston Ltd, Edinburgh, Great Britain. 1457pp

Appendix 3: List of medicinal plants occurring in freshwater ecosystems

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
MALVACEAE	<i>Abutilon austro-africanum</i> Hochr.	None	None	Shrub	Lakes/pools	Soil stabilizer; flood retention; species diversity support	NAM,BOT,S WZ,NNP,N WP,GAU,MP PU,KZN,NC P	Abortifacant (not med proven)	10(94)
FABACEAE	<i>Acacia robusta</i> subsp. <i>clavigera</i> (E.Mey.) Brenan	<i>Acacia clavigera</i> E.Mey; <i>Acacia clavigera</i> subsp. <i>clavigera</i> E.Mey.	E: River Acacia; A: Smalpeulpronkdoring, brakdoring; S: mooka; T: mvumbangwenya; X:umngampunzi; Z: umngamanzi	Tree	Channel (river plus banks)	Bank stabilization, water cycling	KZN, MP, LP, GA, Bot, Nam & Swa; p180(4)?	Chest complaints: steam from crushed boiled bark inhaled; Skin ailments: bark decoction applied topically	1(123), 4(180), 5(360), 10(67), 21(537)
FABACEAE	<i>Acacia xanthophloa</i> Benth.	None	E: fever tree; A: koorsboom; S: umkhanyakudze; S,Z: umhlosinga; Z: umhlofunga, umdlovune, umkhanyakude	Tree	Channel (river plus banks)	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	KZN, MP, LP & Swa; P45 (2), p124 (1), p188 (3), (N Zululand, excl coastel belt)	Malaria and as prophylactic: powdered root, stem and bark; Abdominal pain: cold root infusion as washes?; Fever, eye complaints: bark	1(124), 2(45), 3(188), 10(67), 21(553)
FABACEAE	<i>Adenopodia spciata</i> (E. Mey.) C. Presl	<i>Entada spicata</i> (E.Mey.) Druca	E: Spiny splinter bean; A: rivierboontjie; Z: ibobo	Climber	Floodplain wetland	Bank stabilization; flood retention	KZN, MP, LP & Swa	Root: chest pain	

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
ASTERACEAE	<i>Adenostemma caffrum</i> DC. Var. <i>caffrum</i>	<i>Adenostemma caffrum</i> DC.	Z: umahogo	Perennial herb	Channeled valley bottom wetland	Bank stabilization; water quality improvement ; flood retention; water cycling; species diversity support	var caffrum? EC, KZN, MP, LP, NW, GA, NC, Bot, Nam & Swa	Influenza, infusion taken as emetics, administered to children as enemas: unspecified parts	1(313), 10(26)
ASTERACEAE	<i>Adenostemma viscosum</i> J.R.Forst.	<i>Adenostemma dregei</i> ; <i>Adenostemma natalense</i> ; <i>Adenostemma perrottetii</i>	Z: umahogwe	Perennial herb	Channeled valley bottom	Bank stabilization; water quality improvement ; flood retention; water cycling; species diversity support	EC, KZN, MP & LP	Probably as <i>A caffrum</i>	1(313), 10(26)
ROSACEAE	<i>Agrimonia bracteata</i> E.Mey ex C.A.Mey	<i>E.eupatoria</i> L.; <i>A. nepalensis</i> Don	E: Agrimony; A: akkermonie, geelklits; Z: umakhuthula,	Perennial herb	Channeled valley bottom wetland	Bank stabilizer; water quality; flood retention; species diversity support	EC, FS, KZN & MP	Vermifuge, eg. Tapeworm: pounded leaves; Expectorant for coughs, stomachic: ?	1(117), 10(118), 21(885), 39(573)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
RUBIACEAE	<i>Alberta magna</i> E.Mey.	None	E: Krantzflame-tree, Natal flame bush; A: breekhout; X: umabophe, isiqalane; Z: ibutha-elikhulu, igibampondo	Tree	Channel (river plus banks)	Soil stabilizer; water cycling; flood retention; species diversity support	Scattered distribution in ECP & KZN; p538(3)	medicinally?: bark	1(297), 3(538), 10(119), 21(896), 80(168)
ROSACEAE	<i>Alchemilla woodii</i> Kuntze	<i>Archiemilla wilmsii</i> Engl.	None	Perennial herb	Unchannelled valley bottom	Bank stabilizer; water cycling; flood retention; species diversity support	EC, FS, KZN, MP, LP & Les	Relieve headache: inhale smoke	10(119), 21(886),
APIACEAE	<i>Alepidea amatymbica</i> Eckl. & Zeyh. var. <i>amatymbica</i>	<i>Alepidea amatymbica</i> Eckl. & Zeyh.	E,Z: Kalmoes, kalmos; X: iqwili; Z: ikhathazo	Perennial herb	Hillslope seep	Soil stabilization, flood retention	EC (Amatolas), FS, KZN, MP, LP, Les & Swa	Respiratory ailments, influenza: roots raw or cooked, as snuff or burned roots inhaled; Stomach, abdomen pain, rheumatism, disinfectant: powdered root (rhizomes); Tonic - small dose, purgative - large dose: ?	1(223), 10(16), 31(194), 21(1032), 80(180)
RANUNCULACEAE	<i>Anemone fanninii</i> Harv. Ex Mast.	None	E: wild anemone; A: anemoon, syblom; Z: amanzamnyama	Perennial herb	Unchannelled valley bottom wetland	Soil stabilizer	EC, FS, KZN & Les; 8(138)	Roots probably same way as <i>A. caffra</i> (A. <i>caffra</i> :)Colds, headache: root powdered as snuff, smouldering root smoke inhaled; Pain :	1(98), 8(138), 10(117)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
GENTIANACEAE	<i>Anthocleista grandiflora</i> Gilg.	<i>Anthocleista zambesiaca</i> Baker; <i>Anthocleista insignis</i>	E: Forest big-leaf, forest fever-tree, cabbage tree; A: boskoorsboom, grootblaarboom; S: umhohobobo, luvungu	Tree	Channel (river plus banks)	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	MP, LP & Swa; p 486(3)	leaf paste applied; Toothache: ground inner root)	3(486), 10(80), 21(727)
ICACINACEAE	<i>Apodytes dimidiata</i> E.Mey. Ex Arn. ssp. <i>dimidiata</i>		E: white pear; A: witpeer; S: kgalagangwé; SW: umdzakane; V: tshiphophama-madi; X,Z: umdakane	Tree	Channel (river plus banks)	Soils stabilizer; water cycling	WC, EC, KZN, MP, LP, NW, GA & Swa; p200(5), 4 (286)	Intestinal parasites: root, bark infusion as enema; Ear inflammations: leaf; Stomach complaints: bark decoction	1(187), 2(56)?, 30.4(286), 5(200), 10(86), 21(501)31(184)?
APONOGETONACEAE	<i>Aponogeton distachyos</i> L.f.	<i>Aponogeton distachyos</i> var. <i>lagrangei</i> Andrews	E: Cape hawthorn, Cape pondweed, dog-with-two-tails; A: waterblommertjie, wateruintjie, vleikos, waterblom, waterendjies, waterlelie(Bron?)	Geophyte	Channeled valley bottom wetland	Bank stabilization; water quality improvement; flood retention; water cycling; species diversity support	WC & MP	Sores, burns: leaves used as poultice	80, 10(18), 21(112)25(58)
SCROPHULARIACEAE	<i>Aptosimum albomarginatum</i> Marloth & Engl.	None	Z: nsindwane	Shrub	Floodplain wetland	Soil stabilizer	WC, EC, NW, NC, Bot & Nam	Fever stomach: emetic	10, 20, 30, 10(126), 39(605)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
ASTERACEAE	<i>Arcotis arctotooides</i> (L.f.) O.Hoffm.	<i>Osteospermum arctotooides</i> L.f., <i>Venidium arctotooides</i> (L.f.) Less., <i>V. decurrens</i> Less.	A: Bittergousblom, botterblom; S: putswa-pududu; Z: ubushwa	Perennial	Channeled valley bottom wetland	Bank stabilization; flood retention	WC, EC, FS, KZN, MP, NW, GA & NC	Antibiotic Same as A. stoechadifolia	10(27), 39(302)
IRIDACEAE	<i>Aristea ecklonii</i> Baker	None	Z: ikhambi elilulaza, umafosi	Perennial herb	Unchannelled valley bottom wetland	Soil stabilizer	WC, EC, KZN, MP, LP & Swa	Sickness accompanied by fever, coughing; leaf infusion as enema; Siphilis: Medicinally?: rhizomes	8 (454); 10 (86), 21, (504), 31(86)
IRIDACEAE	<i>Aristea gerrardii</i> Weim.	None	Z: umabhanjana	Perennial herb	Hillslope seep	Bank and soil stabilizer	KZN & EC	1(60), 8 (?), 10 (86), 39(72)	
ASTERACEAE	<i>Artemisia afra</i> Jacq. ex Willd.	<i>Artemisia afra</i> Jacq. ex Willd.	E: African wormwood; A: wilde-als; S: lengana; Z: umhloniyane	Shrub	Channel (river plus banks)	Bank stabilization	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Bot, Les, Nam & Swa	(Various respiratory, gastro-intestinal ailments), antheimintics, emetics, gout, haemorrhoids, ear/toothache, headaches, colds, measles, fevers, including malaria: leafs crushed, or steam of infusion inhaled; Constipation, intestinal worms in children: ground plants, suspended in water/milk administered; Blood purifiers,acne, boils,diabetes:	1(327), 9(44), 10(27), 21(199), 28(84), 39(291)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
ASPLENIACEAE	<i>Asplenium adiatum-nigrum</i> L. var. <i>adiatum-nigrum</i>	<i>Tarachis adiantum-nigrum</i> (L.) Presl; <i>Asplenium luridum</i> Burm.f.; <i>Asplenium tabulare</i> Schrad.; <i>Asplenium argutum</i> Kaulf.; <i>Asplenium rawsonii</i> Bak.; <i>Asplenium adiantum-nigrum</i> var. <i>obtusum</i> (Kit. ex Willd.) Sim ; <i>Asplenium marlothii</i> Hieron.	None	Fern	Hillslope seep	Soil stabilizer	WC, EC, FS, KZN, MP, LP, GA & Les	Antilimintic enema: rhizome	80, 10(26), 21(1084), 39(14)
ASPLENIACEAE	<i>Asplenium monanthes</i> L.	<i>Asplenium monanthes</i> L.	E: Mother fern; A: Moedervaring	Fern	Hillslope seep	Soil stabilizer	WC, EC, FS, KZN, MP, LP & Les	Treat colds:smoke leaves	80, 10(26),21(1084) 28(54)
CONVOLVULACEAE	<i>Astripomoea malvacea</i> (Klotzsch) A.Meeuse	<i>Astrochlaena malvacea</i> (Klotzsch) Hallier f.; <i>Breweria malvacea</i> Klotzsch	E: Common star-ipomoea	Perennial herb	Floodplain wetland	Soil stabilization	KZN & Nam	Swelling and inflammation: crushed roots; eyeball inflammation: sap of leaf and flower.	8(148), 10(51),21(306)
SCROPHULARIA CEAE	<i>Bacopa monnieri</i> (L.) Pennell	<i>Lysimachia monnieri</i> L.; <i>Moniera cuneifolia</i> Michaux	None	Perennial herb	Unchannelled valley bottom wetland	Soil stabilizer; water quality; water cycling; flood retention; species diversity support	KZN	Potent diuretic, cardiac tonic, tranquilizer, nerve tonic; Purgative , skin lotion: plants boiled in water	10(127), 25(244), 23(NA)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
BALANITACEAE	<i>Balanites maughamii</i> Sprague ssp. <i>maughamii</i>	<i>Balanites dawei</i> Sprague	E: green thorn, y-thorn torchwood; A: groendoring, fakkelhout; Sw: umnulu; Z: ipamu, umgobandlovu	Tree	Channel (river plus banks)	Bank stabilization; water quality; water cycling; flood retention	KZN, MP, LP, GA, Bot & Swa (P61 (2))	General tonic and panacea: cooked bark; Ritual emetics: bark end root decoction; Cough treatment: fruits	1(151), 2(61), 9(52)?, 10(40), 21(1065)?
BEGONIACEAE	<i>Begonia homonyma</i> Steud.	<i>Begonia coffra</i> Meisn.	E: Wild begonia; A: wilde begonia Z: idlula	Perennial herb	Hillslope seep	Soil stabilization	EC, KZN, MP & LP; 8(408)	Emetic for chest ailments: root infusion	1(209), 8(408), 10(41)
BEGONIACEAE	<i>Begonia sutherlandii</i> Hook.f. Ssp. <i>sutherlandii</i>	<i>Begonia buttonii</i> Irmsch; <i>Begonia dissecta</i> Irmsch; <i>Begonia suffruticosa</i> Meisn. var. <i>gweinziiana</i> A.DC.	E: wild (orange) begonia; A: Sutherlandbegonia Z: uqamamawene	Perennial herb	Hillslope seep	Soil stabilization	EC, FS, KZN, MP, LP, GA & Swa, (p 209 (1))	Emetics, heart burn, haematemesis: leaf, stem infusion (21)	1(209), 8(68?), 10(41)? ,31 (210)?
ASTERACEAE	<i>Berkheya multijuga</i> (DC.) Roessler	<i>Crocodylodes grandifolium</i> Kuntze; <i>Crocodylodes multijugum</i> Kuntze; <i>Stobaea grandifolia</i> DC.; <i>Stobaea multijuga</i> DC.	E: spiny berg thistle; A: doringrige bergdisse; S: mhatollontsoa-ntsane-ea-loti; Z: imboziso-emhlophe, ukhakhasi	Perennial herb	Hillslope seep	Bank stabilization; water quality improvement ; flood retention; water cycling; species diversity support	EC, FS, KZN & Les	Medicinal use?: leaves , stem	8(336), 10(28), 28(146)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
ASTERACEAE	<i>Berkheya radula</i> (Harv.) De Willd.	<i>Berkheya adlamii</i> Hook.f.; <i>Berkheya radula</i> (Harv.) Burt Davy; <i>Crocodilodes radula</i> (Harv.) Kuntze; <i>Stobaea radula</i> Harv.	T: diphate	Perennial herb	Hillslope seep	Bank stabilization; water quality improvement ; flood retention; water cycling; species diversity support	EC, FS, MP, LP, NW, GA, Bot & Swa	Back pain over kidneys: decoction	10(28), 21(204), 39(294)
APIACEAE	<i>Berula erecta</i> (Huds.) Coville subsp. <i>thumbergii</i> (DC) B.L. Burt	<i>Berula thumbergii</i> (DC.) H. Wolf; <i>Sium thumbergii</i> DC	E: water parsnip; A: tandpynwortel; Z: ibophwani; S: lehlats	Perennial herb	Unchannelled valley bottom wetland	Bank stabilization; water quality improvement ; flood retention; water cycling; species diversity support	subsp.? P5 8 (9), p225 (1) WC, EC, MP, LP, NW, GA & NC	Toothache: fresh rhizome chewed ; Headaches: body wash ; Ferile ailments: taken in hot milk ; Reported vlei poisoning in stock animals	1(225),8(296?), 9(58), 10(16), 21(1034)25(55)?
BLECHNACEAE	<i>Blechnum punctulatum</i> Sw. var. <i>punctulatum</i>	<i>Lomaria punctulata</i> (Sw.) Kunze	S: lehorometso	Fern	Hillslope seep	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	WC, EC, KZN, MP, LP, Les & Swa	anthelmentic enema:rhizome	10(41),21(1086), 39(18)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
RUBIACEAE	<i>Breonadia salicina</i> (Vahl) Hepper & J.R.I.Wood	<i>Adina galpinii</i> Oliv.; <i>A. microcephala</i> (Delil.) Hiern var. <i>galpinii</i> (Oliv.) Hiern; <i>Breonadia microcephala</i> (Del.) Ridsdale	E: Breonadia, Transvaal teak, wild oleander, matumie; A: mingerhout; SW: umhlume; T: mhlume; V: mut u-lume; Z: umfala,umfula,	Tree	Channel (river plus banks)	Soil stabilizer; water cycling; flood retention; species diversity support	KZN, MP, LP & Swa; p 230 (6), P72 (2)	Tonic for children, stomach ailments, heart ailments: bark; Colic: roots; Dental hygiene: twigs used as toothbrush; Tachycardia: root decoction	1(295), 2(72), 6(228), 10(120)
EUPHORBIA CEAE	<i>Bridelia micrantha</i> (Hochst.) Baill.	<i>Bridelia stenocarpa</i> Mull. Arg; <i>Candelabria micrantha</i> Hochst ?	E: Mitzeeri, coastal goldenleaf, sweetberry; A: blousoetbessie, bruinstinkhout; S: umhlalamagcwababa; X: umhlahlungulu; Z: incinci, umshonge, umhlahle	Tree	Channel (river plus banks)	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	EC, KZN, MP, LP & Swa; p230(3), p73 (2), EC to trop Afr	Stomach complains: Roots ; Sore eyes: Leaf sap ; Headache: powdered root mixed with fat topically applied ; Burn wounds: Powdered bark promote healing; Sterility, respiratory complaints, induce abortion: root and bark (also used in other parts of Africa)	1(165), 2(73), 3(230), 10(62), 80(146)
BUDDLEJACEAE	<i>Buddleia salviifolia</i> (L.) Lam.	None	E: sagewood, butterfly bush; A: saliehout, witsalie;S: lelothwane, molalata; X: ilothane, igqange; Z: igqange, iloshane, mupambati	Shrub	Channel (river plus banks)	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	WC, EC, FS, KZN, MP, LP, NW, GA, Les & Swa; P75 (2)	Tonic: in small doses, leaves and flowers steeped in water and sweetened with honey ; Eye lotion: leaf infusion ; Coughs, colic, flatulence, diarrhea: root decoctions; Wash sores: extract of fresh flowers	1(240), 2(75), 7(98), 10(44), 34(176), 21(727)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
RHIZOPHORACEAE	<i>Cassipoureaagum miflua</i> Tul. var. <i>verticillata</i>	According to 91 this is a synonym for <i>Cassipourea gummiflua</i> Tul.	E: large-leaf onionwood; A: grootblaaruiehout; X: umbetyana, umkhanga; Z: isinuka, umbhovane	Tree	Channeled valley bottom wetland	Bank stabilizer; water cycling; flood retention; species diversity support	KZN & EC, EC to trop Afr, 396 (3)	bark used medicinally	1(213), 3(396), 10(118)
AMARANTHACEAE	<i>Centrostachys aquatica</i> (R.Br.) Wall. Ex Moq	<i>Achyranthes aquatica</i> R. Br.	None	Perennial herb	Channel (river plus banks)	Soil stabilizer, water quality, flood retention; species diversity support	BOT	Veneral diseases: Roots	10(11), 25(53), 81(NA)
DIPSACACEAE	<i>Cephalaria oblongifolia</i> (Kuntze) Szabó	<i>Cephalaria attenuata</i> (L.f.) Roem. & Schult. var. <i>oblongifolia</i> Kuntze	E: false Scabiosa	Perennial herb	Floodplain wetland	Soil stabilizer	SWZ,MPU,F ST,KZN,ECP	Cold: Leave infusion	8(204), 10(59), 34(419), 39(400), 61(198&199)
DIPSACACEAE	<i>Cephalaria zeyheriana</i> Szabó	None	Z: uzondle	Perennial herb	Hillslope seep	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	EC, FS, KZN, MP, LP, NW, GA, Les & Swa. p106(5)	Blood purifier, swelling, pain, syphilis, TB: root decoctions	1(302), 10(59)
GENTIANACEAE	<i>Chironia krebsii</i> Griseb.	None	E: Krieb's Chironia; S: lehlapahali,	Perennial herb	Hillslope seep	Bank stabilization;	EC, FS, KZN, MP, LLP,	Colic, diarrhoea in children: Relieve	1(242),8(414), 9(80),

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
			mamorulane; Z: umanqunduswazi			Soil stabilization; species biodiversity support	Les & Swa; (Subsahara Africa p242 (1))	uneasiness in pregnancy:	10(80), 21(448),31 (226)
GENTIANACEAE	<i>Chironia purpurascens</i> (E.Mey.) Benth. & Hook.f. ssp. <i>humilis</i> (Gilg) I.Verd.	<i>Chironia humilis</i> Gilg I.Verd.	E: Dwarf chironia	Perennial herb	Valleyhead seep	Bank stabilization; flood retention; species biodiversity support	FS, KZN, MP, LP, NW & GA	Stomach complaints: infusions taken as tea	1(242), 8(414)?, 10(80), 23(NA), 39(478)
COMBRETACEAE	<i>Combretum erythrophyllum</i> (Burch.) Sond.	<i>C. glomeruliflorum</i> Sond.	E: bushwillow, rivercombretum; A: riviervaderlandswilg; S:umdvubu;T: mbvuva; V: muvuvhu; X: umdubu; Z: umbondwe	Tree	Channel (river plus banks)	Bank stabilization; water cycling & flood retention	EC, KZN, MP, LP, NW, GA, NC, Bot, Nam & Swa, p 404(3), P89 (2) ; p214 (1),p364(5)	Veneral diseases, purgative ; roots ; Facilitate labour: unspecific parts ; Sores: dried powdered gum ; Coughs, abdominal pain : leaves	1(214), 3(404), 5(362), 7(162), 10(50)
COMBRETACEAE	<i>Combretum microphyllum</i> Klotzsch	<i>Combretum paniculatum</i> Vent. Subsp. <i>microphyllum</i> (Klotzsch) Wickens	E: flame-creeper, flame climbing bushwillow; A: vlamklimop; S: umhlalanyosi; Z: iwapha	Climber	Channel (river plus banks)	Soil stabilization	p 406 (3); KZN, MP, LP, GA & Swa, (Maputhula nd to trop Afr)	Expel retained placenta.; Treat mentally disturbed people:	3(406), 7(100), 10(50)
APIACEAE	<i>Conium chaerophylloides</i> (Thunb.)Sond.	<i>Seseli chaerophylloides</i> Thunb.	S: lefokodi	Perennial herb	Unchannelled valley bottom wetland	Soil stabilization	WC, EC, FS, KZN, MP, NW, GA, NC & Les	wash feverish patient: lotion	8(160), 10(16),21(1036)
ASTERACEAE	<i>Conyza scabrida</i> DC.	<i>Baccharis ivaeifolia</i> L.; <i>Canyza ivifolia</i>	E: ovenfbush; A: bak(besem)bossie,	Shrub	Floodplain wetland	Bank stabilization;	WC, EC, FS, KZN, MP,	Colds, coughs: leaf infusion as enema;	1(315), 10(29),

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
		(L.) Less; <i>Pluchia scabrida</i> DC.	galsiektebossie; Z: uhlabo, umanzimnyama			water quality improvement ; flood retention; water cycling; species diversity support	LP, NW, GA, NC, Bot, Les, Nam & Swa	Pleuritic pain in children: charred root powder rubbed in; Headaches: leaves, ground and snuffed; Chest, heart complains, delayed expulsion of placenta: Inflammation : leaf poultices applied; convulsion in children: leaf decoctions administered;	39(301)
ASTERACEAE	<i>Conyza ulmifolia</i> (Burm.f.) Kuntze	<i>Baccharis ulmifolia</i> Burm.f.; <i>C. incisa</i> Ait.; <i>Erigeron incisum</i> Thumb.	Z: umchakaza	Perennial herb	Channeled valley bottom wetland	Bank stabilization	WC, EC, FS, KZN, MP, LP, NW, GA & Swa	catarrh, coughs: leaf decoctions taken	1(315), 8(310), 10(29), 21(221)
BORAGINACEAE	<i>Cordia ovalis</i> R.Br. Ex A.DC.	None (<i>Cordia monoica</i> - misapplied name)	E: Sandpaper cordia, sandpaper saucery, anot berry; A: growweblaapieringbe ssie, snotbessie; S: lilovu-lelimyana; Z: ilovu-elimnyama	Tree	Channel (river plus banks)	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	p508(3), KZN (in Ndumo, may occur bushveld outside Eshowe), MP, LP, Bot, Nam & Swa	Widely used in Africa; Abortifacient: roots chewed; Healing of wounds: roots; Anti-emetic: powdered root taken as porridge (Zim); Rabies: unspecified parts (Nam)	1(260), 3(508), 10(42), 21(148)
ASTERACEAE	<i>Cotula anthemoides</i> L.	<i>Artemesia nilotica</i> L.; <i>Cotula chinensis</i> Kitam; <i>Cotula dichrocephala</i> Sch.Bip. ex A.Rich.; <i>Cotula</i>	A: tungras; S: hlapi-nyenyane Z: umhloniyane	Perennial herb	Floodplain wetland	Soil stabilization, flood retention	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Bot, Les, Nam & Swa	Cold: as tea, enemas to children Colic: leaf, root decoction. Substitute for <i>Artemesia afra</i>	1(326), 10(29), 21(221), 25(65)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
CRASSULACEAE	<i>Crassula peploides</i> Harv.	<i>microcephala</i> DC. <i>Crassula galpinii</i> Schonland	S: mohata-metsi	Perennial herb	Hillslope seep	Soil stabilizer	EC, FS, KZN, MP & Les	Fever and pain: root	10(54),21(322)
AMARYLLIDACEAE	<i>Crinum bulbispernum</i> (Burm.f.) Milne-Redh. & Schweick.	<i>C. capense</i> sensu Herb. C. <i>longifolium</i> (L.) Thunb.	E: river lily, wild amaryllis, Vaal/Orange rivierlelie; S: lelutha, mototse; Z: umduze	Geophyte	Channeled valley bottom wetland	Water quality, bank stabilization; nutrient extraction	FS, KZN, MP, NW, GA, NC, Les & Swa; p 52 (1)	Haemorrhoids, backache: roasted bulbs applied; Septic sores, abscesses: roasted bulbs as poultice; Rheumatic fever: chopped leaf decoction; Swollen joints, sprains: flowers bound on; Kidney, bladder infection: bulbs; Earache: leaf sap;	1(52), 8(348), 10(12)
AMARYLLIDACEAE	<i>Crinum macowanii</i> Baker	<i>Crinum gouwsii</i> Thunb.; <i>Crinum macowanii</i> Baker ssp. <i>confusum</i> I. Verd.	E: Mac Owen's river lily; A: boslele; X: intelezi; Z: umduze	Geophyte	Hillslope seep	Bank stabilization	EC, FS, KZN, MP, LP, NW, GA, Nam & Swa; p52 (1)	Swelling, urinary tract problems: bulb decoctions; Itchy rashes, as emetic, stimulate milk supply, venereal diseases, increase blood supply, compress for backache: bulb; Scrofula, micturition, rheumatic fever, blood cleansing, kidney, bladder diseases, glandular swellin, fever, skin problems, boils, acne: bulb /leaves mixed with other ingredients	1(52), 8(350), 9(94), 10(12), 31(76)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
AMARYLLIDACEAE	<i>Crinum moorei</i> Hook.f. (RDL)	<i>Crinum imbricatum</i> Baker; <i>Crinum schmidtii</i> Regel	E: Moore's river lily, Inanda/Natal/Ngomi lily; A: bos/Natal lylie; Z: umnduze	Geophyte	Channeled valley bottom wetland	Bank stabilization	EC, KZN & GA	Swelling, urinary tract problems: bulb decoctions	1(52), 8(350), 10(12), 31(76), 80(176)
IRIDACEAE	<i>Crocsmia paniculata</i> (Klatt) Goldblatt	<i>Antholyza paniculata</i> Klatt; <i>Curtonus paniculatus</i> (Klatt) N.E. Br	E: falling stars, pleated leaves; A: waaitelie; S: khahla-ea-bokone, moloke; Z: umlungu, undwendweni	Geophyte	Valleyhead seep	Soil stabilizer, flood retention	FS, KZN, MP, Les & Swa	Dysentery, diarrhoea: corm decoctions taken and followed by enema. Infertility: ?	1(62), 30,8(42), 10(86)
IRIDACEAE	<i>Crocsmia pottsii</i> (McNab ex Baker) N.E.Br. (RDL)	<i>Gladiolus pottsii</i> Macnab; <i>Montbretia pottsii</i> Macnab ex Baker; <i>Tritonia pottsii</i> (Macnab ex Baker) Baker	E: Slender crocosmia; Z: umlungu, undwendweni	Geophyte	Channel (river plus banks)	Soil stabilizer	ECP & KZN, P42 (8)	Dysentery, diarrhoea: corm decoctions taken and followed by enema. Infertility: ?	1(62), 8(42), 10(86)
EUPHORBIA-CEAE	<i>Croton megalobotrys</i> Müll.Arg.	<i>Croton gubouga</i> S.Moore	E: large feverberry; A: grootkoorsbessie	Tree	Channel (river plus banks)	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	MP, LP, GA, Bot & Nam; P104 (2)	Purgative, fever: seeds, bark and roots; Abortifacient: bark ; Malaria fever and prophylactic: Seeds, bark	10(62), 150
LAURACEAE	<i>Cryptocarya latifolia</i> Sond.	None	E: broad-leaf wild quince; A: breëblaarkweper, basterswartysterhout; X,Z: umthungwa; Z: umhlangwenya	Tree	Channel (river plus banks)	Bank stabilizer; water quality; water cycling; flood retention;	KZN & EC; p 106 (3)	Chest complains: bark with crocodile fat; Internal pains, muscular cramps, urinary tract diseases, uterine spasm, menstrual pains: bark;	1 (107), 20, 3(106), 10(92),21(531)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
LAURACEAE	<i>Cryptocarya woodii</i> Engl.	<i>Cryptocarya acuminata</i> Schinz	E: bastard camphor tree, river wild - quince; A: Kaapse kweper; S: umncabe; X: umthungwa; Z: umngqabe, umthongwane	Tree	Channel (river plus banks)	Bank stabilizer; water quality; water cycling; flood retention; species diversity support	SWZ,MPU,K ZN,EC, KZN, MP, Swa & Moz; p108 (3)	bark sometimes used as substitute for bark of <i>Ocotea bullata</i> Different parts are used medicinally	1(107), 3(108), 10(92), 37(198)
CYATHACEAE	<i>Cyathia dregei</i> Kunze (RDL)	<i>Alsophila dregei</i> (Kunze) R. Tryon	E: Tree fern; A: boomvaring; Z: inkomankoma	Fern	Channel (river plus banks)	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	WC, EC, KZN, MP, LP, NW, GA & Swa	Ensure easy childbirth: unspecified parts; Anthelmintics : dried root	1(6), 80, 10(56)
CYPERACEAE	<i>Cyperus articulatus</i> L.	None	E: Aldrue, jointed flatsedge	Sedge	Unchannelled valley bottom wetland	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	EC, KZN, MP, LP, Bot, Nam & Swa	Anthelmintic properties; For various cures?: rhizomes, anti-emetic and sedative, abdominal disorders, snakebite: root	1(20), 10(57), 150, 21(373), 25 (89)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
CYPERACEAE	<i>Cyperus fastigiatus</i> Rottb.	None	S: mothoto	Sedge	Unchannelled valley bottom wetland	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	WC, EC, FS, KZN, MP, LP, NW, GA, NA, Les & Swa	Relieves pain: inhale smoke	30, 10(57)
CYPERACEAE	<i>Cyperus longus</i> L. var. <i>longus</i>	None	E: Sweet cyperus; A: waterbiesie, dooiworthe I; Z: indawo	Sedge	Channelled valley bottom wetland	Bank stabilization; water quality; species biodiversity support	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Bot, Les, Nam & Swa; p 20 (1)	Stomach ailments in children: tuber infusion administered ; Colds: chewed or powdered tubers blown in ear and nose ; Used as diaphoretic in Europe ; Sap of plant poisonous Cough: Outer stem	1(22), 8(560)?, 10(57)?, 150, 25(91)?
CYPERACEAE	<i>Cyperus papyrus</i> L.	None	E: papyrus; A: papirus; T: adumu; Z: ibumi	Sedge	Channel (river plus banks)	Bank and soil stabilizer; water quality; water cycling; flood retention; species diversity support	KZN, MP, LP, Bot & Nam		8(504), 10(57), 15(210), 18(68), 21(493), 25(92)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
CYPERACEAE	<i>Cyperus sexangularis</i> Nees	None	E: sedge, water grass; A: biesiegras, matjiesgoed	Sedge	Channel (river plus banks)	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	EC, KZN, MP, LP, NW, GA, NC, Bot & Swa	Stomach ailments in children: Roots ingredient in enemas ; Lumbago: powdered roots mixed with crocodile backbone by Kxatla	1(21), 10(57)
AMARYLLIDACEAE	<i>Cyrtanthus brevifolius</i> Harv.	<i>Anoianthus breviflorus</i> (Harv.) Bak.; <i>Anoianthus gracilis</i> Harms; <i>Anoianthus luteus</i> (Bak.) Bak.; <i>Cyrtanthus luteus</i> Bak.	E: fire lily ,wild crocus; A: geelvuurlelie; Sw: umpimpilizi; Z: injobo, uvelabahleke	Geophyte	Hillslope seep	Soil stabilization	EC, FS, KZN, MP, LP, NW, GA, Les & Swa	Treat ringworm, tapeworm: bulb infusion taken ; Poisonous plant	1(53), 8(232), 10(12)
POACEAE	<i>Dactyloctenium aegyptium</i> (L.) Willd.	None	E: Coast button grass, coast grass, common crowfoot, crowfoot grass, duck grass, Egyptian fingergrass, L.M. Grass, starfish grass; A: gewone honderspoor gras, honderspoorgras, natalkweek; Z: ungwengwe	Grass	Unchannelled valley bottom wetland	Soil stabilizer	NAM,BOT,S WZ,NNP,N WP,GAU,M PU,FST,KZN ,ECP,NCP	emetic for cough in children: decoction relieve pain in kidney region: decoction	10(109), 110, 21(464), 39(148)
EBENACEAE	<i>Diospyros mespiliformis</i> Hochst. ex A.DC.	<i>Diospyros bicolor</i> Klotzsch; <i>D. hotzii</i> Gurke; <i>D. sabiensis</i> Hiern; <i>D. senegalensis</i> Perr.	E: african-ebony, jackalberry; A: jakkalsbessie; T mokochong; Z: umtoma	Tree	Channel (river plus banks)	Bank & soil stabilization	MP, LP, GA, Bot, Nam & Swa, p212(6), P119 (2)	Bruises and wounds: bark extract ; Ringworm, dysentery and fever: leaves, twigs, bark ; Dental:	1(234), 6(212), 10(60),21(388)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
		ex DC						twigs as toothbrush; Antibiotic,antimetazoa l, insecticidal properties?	
ORCHIDACEAE	<i>Disa polygonoides</i> Lindl.	<i>Disa natalensis</i> Lindl.	E: Honey disa; Z: ihlamvu elibomvu, umklakleshe	Geophyte	Unchannelled valley bottom wetland	Soil stabilizer	EC, KZN, LP, NW & GA	loss of voice after illness: tuber infusion	1(66), 8(48), 10(103), 31(102)
MELASTOMATA CEAE	<i>Dissotis canescens</i> (E.Mey. ex R.A.Graham) Hook.f.	<i>Dissotis incana</i> (Naudin) Triana	E: Ordeal bean, wild lasiandra, pink wild tibouchina, marsh disotis; Sw: sichobochobo; Z: imfeyenkala, uhlazifukwe oluncane	Shrub	Unchannelled valley bottom wetland	Soil stabilizer	EC, KZN, MP, LP & Swa	Dysentery, diarrhoea: bruised leave infusion as enema; Hangovers:?	1(220), 8(410), 10(96), 31(192),21(743)
BORAGINA-CEAE	<i>Ehretia amoena</i> Klotzsch <i>Ehretia obtusifolia</i> Hochst. ex DC	<i>Ehretia goetzei</i> Gürke; <i>Ehretia mossambicensis</i> Klotzsch; <i>Ehretia stuhlmannii</i> Gürke	E: Sandpaper puzzle-bush, sandpaper-bush; A: skurweblaarbos; S: libhungela, umklele; Z: umklele-omkhulu, umlovo	Shrub	Floodplain wetland	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	EC, KZN, MP, LP, GA, Bot, Nam & Swa; p 510 (3)	Pain: warmed sticks;	1(261), 3(510), 10(42), 150,21(149)
MELIACEAE	<i>Ekebergia capensis</i> Sparm.	<i>E.meyeri</i> C.Presl & C.DC.; <i>Trichilia ekebergia</i> E. Mey. ex Sond.	E: Cape ash, dog plum; A: essenhout; S: umnyamatsi; T: anthoma; X: ungwenyobomvu; Z: uvungu, umthoma	Tree	Channel (river plus banks)	Bank stabilizer	WC, EC, KZN, MP, LP, GA, Bot & Swa; p218(3), (Coast to	As an emetic, dysentery, heartburn: bark; Cough, dysentery, gastritis, headache,scabies: roots; Abscesses,	1(157), 3(218), 10(96), 150, 21(744)31(202)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
RUTACEAE	<i>Empleurum uncapulare</i> (L.f.) Skeels	<i>Empleurum serrulatum</i> Sol. ex Aiton	E: false buchu, willow buchu	Shrub	Hillslope seep	Soil stabilizer; water cycling; flood retention; species diversity support	WC & EC	boils, pimples, blood purification, listlessness: ground bark; Skin ailments, chronic coughs, headaches: leaves Used as substitute for Buchu	10,21,23(N A)
ONAGRACEAE	<i>Epilobium hirsutum</i> L.	None	E: salt of the shepherds; S: mosika-nokan, noha; Z: icikiciki, itswayi lentaba	Perennial herb	Unchannelled valley bottom wetland	Soil stabilizer	WC, EC, FS, KZN, MP, LP, NW, GA, NC & Les	Cure warts, bathing sick babies:	8(410), 10(102)
EQUISETACEAE	<i>Equisetum ramosissimum</i> Desf. ssp. <i>ramosissimum</i>	None	E: horsetail fern, scouring rush; A: bewwerasiegras, drilgras, dronkgras, lidjiesgras, perdestert; Z: ishobalehashi, isikhumukele	Sedge	Unchannelled valley bottom wetland	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	EC, FS, KZN, MP, LP, NW, GA, NC, Les, Nam & Swa; p 6 (1)	Toothache, wound: sap extraction applied ; Abdominal upsets in children: powdered stem infusion with milk or water as enema; Infertility: rhizome decoctions; Venereal diseases, diarrhoea, septic inflammations, glandular swellings, earache, diuretics; ; Toxic to animals	1(6), 10(61),21(1082)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
ERIOSPERMACEAE	<i>Eriospermum ornithogalooides</i> Baker	<i>E.coerulescens</i> Poelln.; <i>E. haygarthii</i> Baker; <i>E. microphyllum</i> Baker	S: khongoana-tsa-ngoana; Z: incameshela	Geophyte	Hillslope seep	Soil stabilizer	EC, FS, KZN, MP & Les	Earache, barrenness in women:	8(90), 10(61), 80(204)
ASTERACEAE	<i>Ethulia conyzoides</i> L.f. ssp. conyzoides	<i>Ethulia conyzoides</i> L.f.	E: Carter's curse, blue weed, todd's folly; Z: umsokosoko	Perennial herb	Unchannelled valley bottom wetland	Soil stabilization; water cycling; species diversity support	EC, KZN, MP, LP, GA, Bot & Nam	Intestinal parasites, colic, general stomach ailments, madness : unspecified parts; med. use in other African countries	1(309?), 8(440)? 10(31)?
HYACINTHACEAE	<i>Eucomis autumnalis</i> (Mill.) Chitt. ssp. <i>clavata</i>	<i>Eucomis clavata</i> Baker; <i>E. regia</i> auct.; <i>E. robusta</i> Baker; <i>E. undulata</i> sensu Letty & sensu Trauseid, non Aiton	E: pineapple fower/plant; A: wildepynappel; Z: umathunga	Geophyte	Hillslope seep	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	EC, FS, KZN, MP, LP, NW, GA, Bot, Les & Swa	Fevers: bulbs small quantities in emetics, enemas; Coughs, respiratory ailments; bulb decoctions taken; Biliousness, lumbago : bulb decoctions as enemas; Syphilis, blood disorders: unspecified parts; Venereal disease, preventing premature childbirth, diarrhoea: (bulb used)	1(42), 9(130), 10(84), 28(138)
HYACINTHACEAE	<i>Eucomis bicolor</i> Baker	None	EL: forest pineapple flower; A: bontpynappelblom, bospynappellelie; S: kxampumpu-ya-thaba; Z: umbola, imbola	Geophyte	Hillslope seep	Bank stabilizer	KZN, FS & Les; p 98(8),	Colic, purgative: ?	1(42), 8(98), 10(84), 21(698)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
HYACINTHACEAE	<i>Eucomis comosa</i> (Houtt.) Wehrh. var. <i>comosa</i>	<i>Eucomis punctata</i> L'Her; <i>Eucomis comosa</i> (Houtt.) Wehrh.	E: Slender pineapple flower; A: krulkoppie, pynappelletjie; X,Z: ubuhlungu- becanti	Geophyte	Unchannelled valley bottom wetland	Soil stabilizer; water quality; flood retention; species diversity support	ECP & KZN	Rheumatism: root; Teething babies: bulbs doction in enemas	1(42), 8(98),10(84), 13(0), 14(0)
ORCHIDACEAE	<i>Eulophia culculata</i> (Afzel. Ex Sw.) Steud.	<i>E. arenaria</i> (Lindl.) Bolus; <i>Limodorum cucullatum</i> Afzel. ex Sw.; <i>Lissochilus arenarius</i> Lindl.	E: bell orchid; Z: amabelejongosi, undwendweni	Geophyte	Unchannelled valley bottom wetland	Soil stabilizer	KZN	Impotence, barrenness: bulbous root	1(69), 8(372), 10(103)
FABACEAE	<i>Faidherbia albida</i> (Delile) A.Chev.	<i>Acacia albida</i> Del.; <i>A. mossambicensis</i> Bolle	E: ana tree; A: anaboom; Z: umhallankwazi, umkhaya-womfula	Tree	Channel (river plus banks)	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	KZN, LP, NC, Bot & Nam; P147 (2), p124 (1), p 198 (3)	Diarrhea: bark decoction (1) Prevent stomach disorders in infants: bark as ingredient in soft porridge; Venereal diseases: Bark decoctions administered ; Dental: barkstrips as `dental floss`; Diarrhoea: bark decoctions; Used med. In different parts of Africa	1(124), 2(147), 3(198), 10(72,73)
MORACEAE	<i>Ficus sur</i> Forssk.	Numerous (See 91)	E: bloomcluster fig, bush/Cape fig; A: besemtrosvy, komaan, suury; S: mphayi, Z: ingobozweni, intombi-kaybhinci, umkhiwane	Tree	Channel (river plus banks)	Bank and soil stabilizer	WC, EC, KZN, MP, LP, GA & Swa; p158 (2)	Numerous ailments in humans and animals; Cataracts, sore eyes: latex; Lung ulceration` : root, bark decoction administered	1(75), 2(158), 10(99), 21(773),31(132)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
MORACEAE	<i>Ficus sycamoros</i> L	Numerous (See 91)	E: sycamore fig; A: trosvy,geelstamvy; S: mohlole; T: nkuwa; V:mutole; Z: umncongo	Tree	Channel (river plus banks)	Bank stabilizer; water quality; water cycling; flood retention; species diversity support	KZN, MP, LP, Bot, Nam & Swa; p368(5), p159 (2)	Diarrhea: bark, latex; Chest, throat and gland ailments: bark, latex; Inflammation: latex; Milk production stimulated: cold water infusion	5(366), 10(99),21(780)
CLUSIACEAE	<i>Garcinia livingstonei</i> T.Anderson	<i>Garcinia angolense</i> Vesque	E: African/lowveld magosteen; A: Afrikageelmelkhout; T: motsaudi; Z: isihlumanye, ugobandlovu, umphimbi	Tree	Channel (river plus banks)	Bank stabilization; water cycling & flood retention	KZN, MP, LP, Bot, Nam & Swa; P161 (2)	Antibiotic: extracts of leaf and flower ; Abdominal pain in pregnancy: root decoction ; Coughs, fever, internal parasites: fruits and stems; Med. used in Africa	1(204), 2(161), 10(49), 21(495)
GERANIACEAE	<i>Geranium canescens</i> L'Hér.	<i>Geranium gladiolosum</i> Eckl. & Zeyh. None	S: lehtwele	Perennial herb	Hillslope seep	Soil stabilizer	EC	Bronchitis: root also colic,dysentery,fever	10(81), 21(450), 23(NA)
GERANIACEAE	<i>Geranium flanaganii</i> R.Knuth	None	S: bolila-ba-litsoene, chechane; Z: ikhambi lesihlungu	Perennial herb	Unchannelled valley bottom wetland	Soil stabilizer; water quality; species diversity support	EC, KZN & Swa	Common Zulu household remedy, specific use not recorded., Lotion for running nose:?	1(148), 8(398), 10(81), 31(158)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
GERANIACEAE	<i>Geranium multisectum</i> N.E.Br.	<i>Geranium incanum</i> Burm.f. var. <i>glabrius</i> R.Knuth; <i>Geranium incanum</i> Burm.f. var. <i>grandicalyculatum</i> R.Knuth; <i>Geranium incanum</i> Burm.f. var. <i>purpureum</i> Burtl. Day	None	Perennial herb	Floodplain wetland	Soil stabilizer; water cycling; flood retention	EC, FS, KZN & MP	Dysentery, constipation, tuberculosis	8(398), 34(567), 70(178,211,329)
GERANIACEAE	<i>Geranium ornithopodon</i> Eckl. & Zeyh.	<i>Geranium knysnaense</i> R.Knuth	S: makorotswane	Perennial herb	Unchannelled valley bottom wetland	Soil stabilizer	WC, EC, MP, LP & NC	Coryza in children: leaf	1(148), 10(81), 21(451), 23(NA), 66(NA)
ROSACEAE	<i>Geum capense</i> Thunb.	None	None	Perennial herb	Hillslope seep	Soil stabilizer; species diversity support	EC, KZN, MP & Les	Blood and kidney cleaning: Bark	8(254), 10(119), 21(365), 66(NA)
IRIDACEAE	<i>Gladiolus aurantiacus</i> Klatt	None	Sw:sidvana; Z: isihlazi	Geophyte	Hillslope seep	Soil stabilizer	WC, KZN, MP & Swa	Fevers and as emetics:?	1(63), 8(44), 10(87), 66(NA)
IRIDACEAE	<i>Gladiolus ecklonii</i> Lehm.	<i>Gladiolus inclusus</i> F.Bolus	E: sheated gladiolus, speckled gladiolus; S: kxahla, litsoantsoang, makhabebe; Sw: sidvuwana	Geophyte	Hillslope seep	Soil stabilizer	EC, FS, KZN, MP, LP, NW, GA, Bot, Les & Swa	Rheumatism: corm	8(572), 10(87), 31(96), 66(NA)
THYMELAEACEAE	<i>Gnidia tomentosa</i> L.	None	S: moomang; Z: indolo	Shrub	Hillslope seep	Soil stabilizer	WC	Constipation: roots	10(133),21(1023), 66(NA)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
GUNNERACEAE ? (HALORAGACEAE)	<i>Gunnera perpensa</i> L.	None	E: river pumpin,wild rhu barb; A: rivier pampoen; S: qobo; Sw: uqobho; V: rambola-vhadzimu; X: iphuzi lomlambo; Z: imfeyesele, ug(h)bo;	Perennial herb	Channeled (River plus banks)	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	WC, EC, FS, KZN, MP, LP, NW, GA, Les & Swa; p142 (9)	Induce labour,antenatal - to tone uterus, expulsion of placenta; stomach problems, rheumatic fever swellings, menstrual pain, stomach bleeding,kidney,bladder complaints, psoriasis: Infusion or decoction of rhizome, taken orally or as enema. Externally applied for wound dressing (also used with other species);	1(220), 8(578), 9(142), 10(82), 110, 31(192), 66(NA)
CELASTRACEAE	<i>Gymnosporia senegalensis</i> (Lam.) Loes.	<i>Maytenis senegalensis</i> (Lam.) Exel	E: confetti spike-thorn; A: rooipendoring, vierkantstampdoring; Z: ubuhlangwe, isihlangu	Tree	Floodplain wetland	Soil stabilization; water cycling; flood retention	KZN, MP, LP, GA, Bot, Nam & Swa; p116(6)	(Used for wide range of ailments) Colds, coughs,; extracts from root, thorns; Pain, constipation, diarrhoea, shistosomiasis,Infertility, night blindness, preventing abortion: roots; Snakebite treatment: ?; Ear ache, menorrhagia, sore throat: leaves	1(183), 6(114-116), 10(48),21(183)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
ORCHIDACEAE	<i>Habenaria epipactidea</i> Rchb.f.	<i>Bonatea foliosa</i> (Sw.) Lindl.; <i>Bonatea foliosa</i> (Sw.) Lindl. Var. <i>pauciflora</i> Sond.; <i>H. epipactidea</i> Rchb.f. var. <i>schinzii</i> (Rolfe) Kraenzl.; <i>H. foliosa</i> (Swartz) Reichb.f.; <i>H. hircina</i> Rchb.f.; <i>H. perfoliata</i> Kraenzl.; <i>H. polyphylla</i> Kraenzl.; <i>H. rautanenii</i> Kraenzl.; <i>H. schinzii</i> Rolfe <i>Orchis foliosa</i> Sw. [see 10(104)]	S: mametsane, Z: umabelebuca omkhulu	Geophyte	Unchannelled valley bottom wetland	Soil stabilizer	EC, FS, KZN, MP, LP, NW, GA, Bot, Les, Nam & Swa	Emetic: root infusion	1(65), 10(104), 21(811)31(118)
SCROPHULARIACEAE	<i>Halleria lucida</i> L.	None	E: tree-fuchsia, white olive; A: notsung, kinderbessie; S: umbinta, libinda; X: umbinza, inkobe; Z: iminza, ubutshwala-benyoni, unondomela	Tree	Channel (river plus banks)	Bank stailization; Water cycling;	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Bot, Les & Swa; p173 (2), p 530(3)	Eardrops: infusion of roots and leaves; Skin complaints.	1(282), 2(173), 3(530), 10(127), 21(938), 28(72), 31(254)
ASTERACEAE	<i>Helichysum cymosum</i> (L.) Don ssp. <i>calvum</i> Hilliard	<i>H. infaustum</i> J.M.Wood & M.S. Evans var. <i>discolor</i> Moeser	Z: impepho	Shrub	Hillslope seep	Soil stabilization	EC, FS, KZN, MP & Les	Headache, flu, respiratory problems: All parts	20, 30, 8(312)?, 10(33), 34(238), 39(315), 66(NA)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
ASTERACEAE	<i>Helichrysum cymosum</i> (L.) Don ssp. <i>cymosum</i>	<i>Gnaphalium cymosum</i> L.; <i>Helichrysum cymosum</i> Don	E: Everlasting; A: kooigoed; X,Z : imphepho	Shrub	Unchannelled valley bottom wetland	Soil stabilization	WC, EC, FS, KZN, MP & Les	Headache, flu, respiratory problems: All parts	20, 8(312), 9(148), 10(33)?, 34(238), 66(NA)
ASTERACEAE	<i>Helichrysum epapposum</i> Bolus	<i>H. flavum</i> Burt Davy; <i>H. inerme</i> Moeser excl. var. <i>brachycladum</i> Moeser	Z: imphepho	Perennial herb	Channeled valley bottom wetland	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	KZN, EC, KZN, MP, LP, NW & Swa	Headache, flu, respiratory problems: All parts	1(319), 50, 10(33), 23(NA), 34(239), 39(316), 66(NA)
ASTERACEAE	<i>Helichrysum mundtii</i> Harv.	None	S: phefo-ea-liliba	Perennial herb	Unchannelled valley bottom wetland	Water quality; water cycling; flood retention; species biodiversity support	EC, FS, KZN, MP, LP, NW, GA Les & Swa	Headache, flu, respiratory problems: All parts	10, 20, 30, 60, 8(214), 10(33), 21(238), 23(NA), 34(241), 39(318), 66(NA)
ASTERACEAE	<i>Helichrysum natalitium</i> DC.	None	Z: imphepho	Perennial herb	Channeled valley bottom wetland	Bank stabilization; water quality; water cycling	KZN	Headache, flu, respiratory problems: All parts	1(319), 10(33), 23(NA), 34(241), 66(NA)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
IRIDACEAE	<i>Hesperantha baurii</i> Baker ssp. <i>baurii</i>	<i>Hesperantha subexerta</i> Baker	S: qelo, kahhla-nyenyane; Z: idwa	Geophyte	Hillslope seep	Soil stabilizer	EC, FS, KZN, MP, LP, NC, Les & Swa	Chest complains: pounded corm infusion as emetics	1(61), 8(352)?, 10(87)
MALVACEAE	<i>Hibiscus trionum</i> L.	None	E: Bladder hibiscus, bladder weed, flower-of-an-hour; A: Terblansbossie, uurbloem; S: solwane; X: iyeza-lentshulube; Z: uvemvane olukhulu	Annual herb	Hillslope seep	Soil stabilizer	NAM, BOT, SWZ, LES, NNP, NWP, GAU, MPU, FST, KZN, ECP, NCP, WCP	Dressing for septic wounds, roundworm remedy: leaves	8(286), 10(95), 170, 21(739), 23(NA), 34(625), 61(138&139)
ARALIACEAE	<i>Hydrocotyle bonariensis</i> Lam.	<i>Hydrocotyle bonariensis</i> var. <i>multiflora</i> (Lam.) Don; <i>Hydrocotyle bonariensis</i> var. <i>texana</i> J.M. Coult & Rose; <i>Hydrocotyle multiflora</i> Ruiz & Pav.; <i>Hydrocotyle polystachya</i> var. <i>quinqueradiata</i> Thours ex A.Rich.; <i>Hydrocotyle tribotrys</i> Ruiz & Pav.; <i>Hydrocotyle umbellata</i> var. <i>bonariensis</i> (Lam.) Spreng.; <i>Hydrocotyle umbellata</i> var. <i>bonariensis</i> Don;	A: varkoortjies	Perennial herb	Unchannelled valley bottom wetland	Soil stabilization	ECP, KZN	malnutrition, debility; naso-pharyngeal affections; pulmonary troubles; skin, mucosae; vermifuges: leaf sap	10(17), 25(63), 81(NA)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
		<i>Hydrocotyle verticillata</i> var. <i>bonariensis</i> (Lam.) Urb.; <i>Hydrocotyle yucatanensis</i> Millsp.							
HYPERICACEAE	<i>Hypericum aethiopicum</i> Thunb. ssp. <i>sonderi</i> (Bredell) N. Robson	<i>Hypericum aethiopicum</i> Thunb. var. <i>glaucescens</i> Sond. ; <i>H. sonderi</i> Bredell	E: St John's wort; A: Johanneskruid, seeroogbossie, sint-janskruid, vlieëkosbossie; S: bohoho,hoila,tabane Z: isimayisane, isimonyoi	Perennial herb	Floodplain wetland	Soil stabilizer	SWZ,LES,N NP,NWP,FS T;KZN,ECP, GAU,MPU	Back pain due to - kidney, abdominal complains: roots as enemas; Ear complaints, venereal disease: unspecified parts; Fevers, treatment of wounds:	1(203), 8(290), 9(154), 10(85), 190,21(495)
HYPERICACEAE	<i>Hypericum lalandii</i> Choisy	None	E: Laland's St Johnswort; A:Laland-se-Sint Janskruid	Perennial herb	Hillslope seep	Soil stabilizer	WC, EC,FS, KZN, MP, LP, NW, GA, NC, Bot, Les, Nam & Swa	Used by Sotho- no details (21)	8(290), 10(85), 21(495), 28(140), 31(204), 34(583)
HYPOXIDACEAE	<i>Hyppoxis villosa</i> L.f.	None	A: inkbol, S: modiletaha	Geophyte	Hillslope seep	Soil stabilizer	WC, EC, KZN & Swa	Immune booster: Bulb Hypertension: bulb	10, 10(86), 21(41), 66(NA),
AQUIFOLIA-CEAE	<i>Ilex mitis</i> (L.) Radlk. var. <i>mites</i>	<i>Ilex capensis</i> Sond. & Harv.; <i>Ilex moticola</i> Tul.; <i>Sideroxylon mite</i> L.; <i>Sideroxylon nigricans</i> Dum.Cours	E: Cape holly; A: waterboom, without; S: libota, inchitsamuti; X: umduduma; Z: iphuphuma	Tree	Channel (river plus banks)	Bank stabilization; water recycling	WC, EC, FS, KZN, MP, LP, NW, GA, Les & Swa; P181 (2), p 288 (3)	Emetics for fever: bark infusion ; Rashes and sores: ground bark paste. Rheumatism : unspecified parts ; Body wash for flu: pounded bark and leaves ;	1(181), 2(181), 3(288), 10(18),21(112)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
BALSAMINA-CEAE	<i>Impatiens hochstetterii</i> Warb. ssp. <i>hochstetteri</i>	<i>I. capensis</i> Thunb.; <i>I. dutieae</i> L. Bol.; <i>I. marlothiana</i> G.M.Schulze	E: Impatiens; wild balsam, touch-me-not; A: kruidjie-roer-my-nie; Z: umadolwana	Perennial herb	Hillslope seep	Soil stabiliziation	WC, EC, FS, KZN, MP, LP, Les & Swa; (p 192 (1))	Colic in children: bark chewed as purgative, or bark extract as enema; Rashes ,sores: pastes of?; Rheumatism: unspecified parts	1(192), 8(406)?, 10(41)
POACEAE	<i>Imperata cylindrica</i> (L.) Raeusch.	<i>I. arundinacea</i> Cyr.; <i>I. cylindrica</i> (L.) Raeuschel var. <i>africana</i> (Anderss.) C.E. Hubb.; <i>I. cylindrica</i> (L.) Raeuschel var. <i>major</i> (Nees) C.E. Hubb.	E: cottonwool grass, Ramsammy grass,silky grass; A: donsgras, sygras, lalanggras; S: mohlorumo, Z: umthente	Grass	Unchannelled valley bottom wetland	Bank stabilizer; water quality; water cycling; flood retention; species diversity support	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Bot, Les, Nam & Swa	Hiccups: crushed root infusions taken; Childrens chest cold, indigestion, angina: root	1(17), 10(110), 150, 21(474,493)
FABACEAE	<i>Indigofera astragalina</i> DC.	None	None	Perennial herb	Channel (river plus banks)	Soil stabilizer	MP, LP, Bot & Nam	Heart problems	10(73), 34(514), 39(451), 66(NA)
CONVOLVULA-CEAE	<i>Ipomoea aquatica</i> Forssk.	<i>Ipomoea natans</i> Dinter & Suess.; <i>I. reptans</i> Poir.; <i>I. sagittaeifolia</i> Hochr.	E: Water Ipomoea	Perennial herb	Unchannelled valley bottom wetland	Bank stabiliziation; water quality; water cycling; flood retention; species	KZN, MP, Bot & Nam	Cultivated in Asia as medicine?	8(420), 10(52), 25(76)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
CONVOLVULACEAE	<i>Ipomoea cairica</i> (L.) Sweet	<i>Convolvulus cairicus</i> L.; <i>I. palmata</i> Forssk.	Z: ihlambe, ijalambu, umaholwana	Climber	Channel (river plus banks)	biodiversity support Soil stabilizer	EC, KZN, MP, LP, NC & Swa	Relief of body rashes: leaves; Highly purgative .	1(258), 8(420), 10(52), 21(308)
SCROPHULARIACEAE	<i>Jamesbrittenia aurantiaca</i> (Burch.) Hilliard	<i>Chaenostoma aurantiacum</i> ; <i>Lyperia multifida</i> ; <i>Manulea multifida</i> ; <i>Sutera aurantiaca</i> ; <i>Buchnera aurantiaca</i> ; <i>Lyperia pinnatifida</i> var. <i>macrophylla</i>	E: Cape saffron; A: geelblommetjie, safraanbossie; S: phiri-ea-hlaha-e-nyenyane	Perennial herb	Hillslope seep	Soil stabilizer	NAM,BOT,L ES,NNP,NW P,GAU,MPU, KZN,EC, KZN, MP, LP, NW, GA, NC, Bot, Les & Nam	<i>Saffron</i> contains many plant derived chemical compounds that are known to have anti-oxidant, disease preventing and health promoting properties	8(74), 10(79), 23(NA), 34(876), 67(NA)
OLEACEAE	<i>Jasminum fluminense</i> Vell. ssp. <i>fluminense</i>	<i>Jasminum fluminense</i> Vell.; <i>Jasminum fluminense</i> Vell. ssp. <i>holstii</i> ; <i>Jasminum holstii</i>	E: Wild jasmine; Other: motsweketsane	Climber	Floodplain wetland	Soil stabilizer	KZN, MP, LP, Bot, Nam & Swa	Snake bite: Root, leaves & bark; Teeth cleaning: Wood	20, 30, 10(80), 15(165), 16(78), 210, 23(NA), 340, 66(NA)
JUNCEAE	<i>Juncus effusus</i> L.	<i>Juncus communis</i> E.Mey.	E: Soft rush	Sedge	Unchannelled valley bottom wetland	Bank stabilizer; water quality; water cycling; flood retention; species diversity support	WC, EC, FS, KZN, MP, LP, NW, GA & Les	Diuretic: Urinary problems:	10, 8(506), 10(80), 18(212), 21(513), 25(153)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
BIGNONIACEAE	<i>Kigelia africana</i> (Lam.) Benth.	Numerous (See 91)	E: Sausage tree; A: worsboom, kalabasboom; N: umvebe, mubvee; T: mpfungurhu; V: mutshato, muvevha; Z: umzinngulu, umvongothi, belendhlovu	Tree	Channel (river plus banks)	Bank stabilization; water quality; water cycling; flood retention	KZN, MP, LP, GA, Bot, Nam & Swa	Abscesses, ulcers, sores, venereal diseases : dried powdered fruits ; Rheumatism, backache : poultices of green fruits and leaves applied ; Toothache : bark decoction gargled ; Skin lotion, skin cancer : fruit extract	10(80), 15(123), 20(236), 21(143), 23(NA), 24(200), 34(312), 45(44), 46(13)
ASPHODELACEAE	<i>Kniphofia linearifolia</i> Baker	<i>Kniphofia linearifolia</i> var. <i>kuntzei</i> A.Berger; <i>Kniphofia linearifolia</i> var. <i>montana</i> A.Berger; <i>Kniphofia longiflora</i> Baker; <i>Kniphofia longistyla</i> Baker; <i>Kniphofia rhodesiana</i> Rendle	E: Common marsh poker; A: Vuurpyl; Z: icacane, umathunga	Perennial herb	Hillslope seep	Bank stabilization; water quality improvement ; flood retention; water cycling; species diversity support	WC, EC, FS, KZN, MP, NC, Les & Swa	Immunity booster: Leaves High blood pressure: Leaves Blood purifier: Leaves Skin purifier	8(30), 10(80), 23(NA), 31(11), 44(6), 49(72), 53(120), 66(NA)
ASPHODELACEAE	<i>Kniphofia multiflora</i> J.M.Wood & M.S.Evans	None	E: Giant poker, tokolosh, torch lily; A: reusevuurpyl; S: isigqungusika; Sw: tokoloshi	Perennial herb	Unchannelled valley bottom wetland	Bank stabilization; water quality improvement ; water cycling; species diversity support	FS, KZN, MP & LP	Magical protection: bulb	8(226), 10(81), 23(NA), 66(NA)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
ASPHODELA-CEAE	<i>Kniphofia porphyrantha</i> Baker	<i>Kniphofia conrathii</i> Baker	E: Red-hot poker; A: Hoeveld vuurpyl; Z: icacane, umathunga; Other: licacalatokoloshi	Perennial herb	Unchannelled valley bottom wetland	Bank stabilization; water quality improvement ; water cycling; species diversity support	EC, FS, KZN, MP, GA, Les & Swa	Constipation; Abdominal pain; Stomach complaints; blood purifier; cleaning of wounds, sore chest: leaves & bulb	8(226), 10(81), 23(NA), 49(74), 61(42&45), 66(NA)
ASPHODELA-CEAE	<i>Kniphofia rooperi</i> (T.Moore) Lem.	<i>Kniphofia longicollis</i> Baker; <i>Tritoma rooperi</i> T.Moore	E: Winter poker; A: lentrevuurpyl; Z: icacane, umathunga ompofu	Perennial herb	Unchannelled valley bottom wetland	Bank stabilization; water quality improvement ; water cycling; species diversity support	EC & KZN	Constipation; Abdominal pain; Stomach complaints; blood purifier; cleaning of wounds, sore chest: leaves & bulb	8(30), 10(81), 23(NA), 31(19), 66(NA)
ASPHODELA-CEAE	<i>Kniphofia sarmentosa</i> (Andrews) Kunth	<i>Aletris sarmentosa</i> Andrews; <i>Tritoma sarmentosa</i> (Andrews) Skeels; <i>Veltheimia sarmentosa</i> (Andrews) Willd.	E: Roggeveld poker	Perennial herb	Hillslope seep	Bank stabilization; water quality improvement ; flood retention; water cycling; species diversity support	WC & NC	Shoulder pains: leaves to make tea-like concoction	10(81), 21(707), 23(NA), 49(74)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
ASPHODELACEAE	<i>Kniphofia tysonii</i> Baker ssp. <i>leboemboensis</i> Codd	<i>Kniphofia tysonii</i> Baker	E: Tyson's poker	Perennial herb	Floodplain wetland	Soil stabilizer	KZN & Swa	Medicinal for woman	8(30), 10(81), 21(707), 23(NA), 49(72), 74(124), 75(NA)
ASPHODELACEAE	<i>Kniphofia uvaria</i> (L.) Oken	<i>Kniphofia alooides</i> Moench; <i>Aloe longifolia</i> Lam.; <i>Aloe uvaria</i> L.; <i>Kniphofia bachmannii</i> Baker; <i>Aletris uvaria</i> (L.) L.; <i>Tritoma burchellii</i> Sweet ex Lindl; <i>Tritoma uvaria</i> (L.) Ker Gawl.; <i>Tritomanthe uvaria</i> (L.) Link; <i>Tritomium uvaria</i> (L.) Link; <i>Veltheimia uvaria</i> (L.) Willd.	E: Red-hot poker, fire lily, torch lily, Cape poker; A: vuurpyl, ghoesghoeroe, rooisoldate, vuurlelie, stinkaalwyn; Z: icacane	Perennial herb	Hillslope seep	Bank stabilization; water quality improvement ; water cycling; species diversity support	WC, EC & NC	Painful menstruations: Root & bulb; Constipation; Abdominal pain; Stomach complaints; blood purifier; cleaning of wounds, sore chest: leaves & bulb	8(30), 10(81), 21(707), 23(NA), 43(86), 44(6), 49(72), 51(49), 56(60), 62(30)
CUCURBITACEAE	<i>Lagenaria sphaerica</i> (Sond.) Naudin	<i>Lagenaria mascarena</i> Naudin; <i>Lagenaria sphaerocarpa</i> E.Mey. ex Arn.; <i>Luffa sphaerica</i> Sond.; <i>Sphaerosicyos meyeri</i> Hook.f.; <i>Sphaerosicyos</i>	E: Wild melon; A: wildekabas; Z: iselwamakhosi, uselwa, uthangazane olukhulu	Climber	Floodplain wetland	Soil stabilizer	WC, EC, KZN, LP & Bot	Leaves or roots: infusion in hot water taken for swelling	1(306), 80(82)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
		<i>sphaericus</i> (Sond.) Hook.f.;							
HYACINTHACEAE	<i>Ledebouria cooperi</i> (Hook.f.) Jessop	<i>Scilla cinerascens</i> <i>Scilla cooperi</i> <i>Scilla glaucescens</i> <i>Scilla inandensis</i> <i>Scilla petiolata</i> <i>Scilla pusila</i> <i>Scilla rogersii</i> <i>Scilla rupestris</i> <i>Scilla saturata</i> <i>Scilla adlamii</i>	E: Cooper's squill, wild squill; S: lepietlane, phetola; Z: icubudwana, icukudwane	Geophyte	Unchannelled valley bottom wetland	Soil stabilizer; water quality; flood retention; species diversity support	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Bot, Les & Swa	Pregnancy, blood purifier, constipation, immune booster, backaches: bulbs	8(344), 10(81), 21(714&715), 23(NA), 49(88), 53(122), 61(36), 66(NA)
LEMNACEAE	<i>Lemna minor</i> L.	Numerous	E: Duckweed; A: damslyk	Aquatic	Lakes/pools	Species diversity support	EC, KZN, MP, NW, GA & Les	Remedy for dropsy and rheumatism; used by Chinese as internal diuretic, antiscorbutic and antisyphilitic; externally for eye disease and carbuncles	10(81), 21(669), 23(NA), 25(159)
ROSACEAE	<i>Leucosidea sericea</i> Eckl. & Zeyh.	None	E: Chechebush, oldwood, troutwood; A: broshout, dwadwa, geelhout, oubaa, oubos, oudehout, ouhout, varingboom; S: cheche, mosino; X: isi-dwadwa, umtyityi, intshitshi, isidwadwa; Z: umtshitshi	Tree	Channel (river plus banks)	Soil stabilizer; water cycling; flood retention; species diversity support	EC, FS, KZN, MP, LP, NW, GA, Les & Swa; P192 (2)	Eye inflammation: leave paste applied; intestinal worms: leaves	10(81), 21(889), 23(NA), 37(440), 53(162), 61(120&121)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
ALISMATACEAE	<i>Limnophyton angolense</i> Buchenau	None	E: Water plantain	Perennial herb	Unchannelled valley bottom wetland	Bank stabilization; water quality improvement ; flood retention	Bot	Wounds: Ash of plant used externally	10(81), 15(143), 23(NA), 25(50)
ALISMATACEAE	<i>Limnophyton obtusifolium</i> (L.) Miq.	<i>Alisma kotschy</i> Hochst; <i>Alisma obtusifolium</i> (L.) Thwaites; <i>Alisma saggitifolium</i> Willd.; <i>Alisma saggitifolium</i> Thwaites; <i>Caldesia saggitaroides</i> Ostenf.; <i>Dipseudochorion saggitifolium</i> Buch.; <i>Limnophyton obtusifolium</i> var. <i>lunatum</i> ; <i>Limnophyton parvifolium</i> Peter; <i>Saggitaria nymphaeifolia</i> Hochst; <i>Saggitaria obtusifolia</i> L.	None	Annual herb	Channel (river plus banks)	Soil stabilizer; water quality; water cycling; flood retention; species diversity support	KZN, MP, LP, Bot & Nam	Pain stillers	10(82), 25(51), 81(NA)
LOBELIACEAE	<i>Lobelia erinus</i> L.	<i>Lobelia bicolor</i> Sims. <i>Lobelia erinus</i> L. var. <i>bellidifolia</i> (Thung.) Sond. <i>Lobelia erinus</i> L. <i>grandiflora</i> Paxton	E: Edging lobelia; SS: mahlo-a-konyana, napjane-ea-phiri, tsoninyane; Z: impenjane, incamathela, isidalaesiluhlaza	Perennial herb	Hillslope seep	Bank stabilizer; water quality; species diversity support	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Bot, Les, Nam & Swa	Colds	8(496), 10(83),23(NA), 34(608), 49(336)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
		<i>Lobelia erinus</i> L. <i>schrankii</i> (Sweet) E.Wimm <i>Lobelia erinus</i> L. var. <i>subvillosa</i> E.Wimm. <i>Lobelia filiformis</i> Lam. var. <i>natalensis</i> (A.DC.) E.Wimm. <i>Lobelia krookii</i> Zahlbr. <i>Lobelia</i> <i>lavendulacea</i> Klotzsch <i>Lobelia</i> <i>lydenburgensis</i> E.Wimm <i>Lobelia</i> <i>montaguensis</i> E.Wimm. <i>Lobelia nuda</i> Hemsl. <i>Lobelia oranjensis</i> E.Wimm <i>Lobelia parvisepala</i> E.Wimm. <i>Lobelia rosulata</i> S.Moore <i>Lobelia</i> <i>senegalensis</i> A.DC. var. <i>senegalensis</i> <i>Lobelia</i> <i>transvaalensis</i> Schltr.							

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
		<i>Lobelia tysonii</i> E.Phillips <i>Lobelia wildii</i> E.Wimm.							
LOBELIACEAE	<i>Lobelia patula</i> L.f.	<i>Dortmannia patula</i> (L.f.) Kuntze; <i>Lobelia genistooides</i> (C.Presl.) A.DC; <i>Rapuntium</i> <i>genistooides</i> C.Presl.; <i>Rapuntium patulum</i> C.Presl.	None	Perennial herb	Hillslope seep	Soil stabilizer	WC	Sore mouths: infusion of pounded leaves	10(84), 23(NA), 26(12) 34(609)
FABACEAE	<i>Lotus discolor</i> E.Mey. ssp. <i>discolor</i>	<i>Lotus tigrinus</i> Baker	E: Coral plant; Z: isiphungu, umhlambaluku, umhloboluku	Perennial herb	Hillslope seep	Soil stabilizer	WC, EC, KZN, MP, LP, GA & Swa	Chest trouble: pounded leaves boiled and allowed to cool down	8(150), 10(84), 23(NA), 34(532)
EUPHORBIAEAE	<i>Macaranga capensis</i> (Baill.) benth. Ex Sim var. <i>capensis</i>	<i>Macaranga bachmannii</i> Pax; <i>Macaranga inopinata</i> Prain; <i>Macaranga multiglandulosa</i> Pax & K.Hoffm.; <i>Macaranga ruwenzorica</i> Pax; <i>Macaranga usambarica</i> Pax & K.Hoffm.; <i>Mallotus capensis</i> (Baill.) Müll.Arg.; <i>Mappa capensis</i> Baill.	E: Wild poplar, Spiny macaranga; A: wildepopulier; X: umBengele; Z: iphubane, umFongamfonga, iPhumela, umPhumelele, umFongofongo, umOmpumelele	Tree	Channeled valley bottom wetland	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	EC,KZN,Sw a	Bark: skin disease and sunburn	1(167), 23(NA), 80(148)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
SCROPHULARIA CEAE	<i>Manulea crassifolia</i> Benth. <i>ssp. crassifolia</i>	Manulea crassifolia Benth	S: Fukuthwane, nohana-metsana	Perennial herb	Hillslope seep	Soil stabilizer	WC, EC, FS, KZN & Les	Swollen umbilicus: Leaves & stem Headache: Leaves & stem	10(85), 21(938), 23(NA), 34(883)
CELASTRACEAE	<i>Maytenus undata</i> (Thunb.) Blakelock	Numerous	E: Koko tree; A: Koko; Z: idohame	Tree	Channel (river plus banks)	Bank stabilization; water cycling & flood retention	EC, FS, KZN, MP, LP, GA & Swa	Bark: unspecified	1(183), 23(NA), 80(142)
ASTERACEAE	<i>Melanthera scandens</i> (Schumach. & Thonn.) Roberty. <i>ssp. dregei</i> (DC.) Wild	<i>Lipotriche brownie</i> ; <i>Pseathurochaeta dregei</i> DC. <i>Trigonotheca natalensis</i> Sch.Bip.	None	Annual herb	Hillslope seep	Bank stabilization	EC, KZN, MP & Swa	External wounds: Leaf & flower Stop bleeding: Leaf & flower Sore eyes: Leaf Coughs: Leaf Stomach disorders: Leaf	8(318), 10(85), 21(250), 23(NA), 34(256)
MELIANTHA- CEAE	<i>Melanthus major</i> L.	None	A: Kriekiebos, krikkiebos, kruidjiebos, kruidjie- roer-my-nie, truitjie- roer-my-nie; S: undiyaza; X: ubuhlungubemamba	Shrub	Channel (river plus banks)	Bank and soil stabilizer	WC, EC & NC	Wounds: whole plant Syphilis: whole plant Lupus: whole plant Old sores: leaves Snakebite: leaves Toxic: root bark Internal: bark Back pain: Leaves Boils: Plant part	10(86), 21(7,8,32,1 50,755), 23(NA), 24(200), 34(631), 46(71), 49(272), 50(94), 54(131 & 132), 66(NA)
POACEAE	<i>Melinis minutiflora</i> P.Beauv.	Numerous	E: Brazilian stink grass, dordura grass, efwatakala grass, gordura grass, honey grass, molasses grass;	Grass	Hillslope seep	Soil stabilizer	EC, KZN, MP, LP & Swa	Tsetse fly repellent: Whole plant Diarhoea: Plant	80, 10(86), 21(477), 23(NA), 34(1175), 39(174)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
LAMIACEAE	<i>Mentha aquatica</i> L.	<i>Mentha dumetorium</i> Schltr. var. <i>natalensis</i> Briq.	A: heuning gras, melassegras, stinkgras E: Water mint, aromatic thyme, wild mint, wild thyme; A: waterment, kruisement, kruisement; S: koena-nyenyane, koena-ya-libida; X: ityaleba; Z: iMbozisa, umaliwane, umayima, umnukani	Perennial herb	Unchannelled valley bottom wetland	Bank stabilizer; water quality; water cycling; flood retention; species diversity support	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Bot, Les & Swa	Tonic: Leaves Milk flow: Leaves Narcotic: Leaves Coughing: Oil from leaves Headaches: Oil from leaves Heartburn: Oil from leaves Vomiting: Oil from leaves Itching: Plant Diarhoea: Bark	8(424), 10(86), 21(522), 23(NA), 25(157), 34(590), 46(60), 49(420)
LAMIACEAE	<i>Mentha longifolia</i> (L.) Huds. ssp. <i>capensis</i> (Thunb.) Briq.; ssp. <i>polyadena</i> (Briq) Briq	<i>Mentha capensis</i> Thunb. <i>Mentha longifolia</i> (L.) Huds. ssp. <i>bouvieri</i> (Briq.) Briq. <i>Mentha longifolia</i> (L.) Huds. ssp. <i>capensis</i> (Thunb.) Briq. var. <i>cooperi</i> Briq. ex T. Cooke <i>Mentha longifolia</i> (L.) Huds. ssp. <i>capensis</i> (Thunb.) Briq. var. <i>doratophylla</i> Briq. <i>Mentha longifolia</i> (L.) Huds. ssp. <i>capensis</i> (Thunb.) Briq. var. <i>obscuriceps</i> Briq.	E: Wild spearmint, wild mint, horsemint; A: kruisement, balderjan, ballerja, kruie, kruisement, wildekruisement; S: bohatsu, koena-ya-thaba koena-ya-libida, kerena; X: inxina, inzinziniba; Z: ufuthane, lomhlanga	Perennial herb	Unchannelled valley bottom wetland	Bank stabilizer; water quality; water cycling; flood retention; species diversity support	WC, EC, FS, NW, NC & Les	Chest complaints: Infusion Wounds: Infusion Headaches: Infusion Stomach pains: Infusion Pregnancy: Infusion Epilepsy: Roots Insomnia: Infusion Hysteria: Infusion Cystitis: Infusion	8(184), 10(86), 21(522), 23(NA), 24(128&188), 34(590), 46(60), 49(420), 50(94)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
		<i>Mentha longifolia</i> (L.) Huds. ssp. <i>capensis</i> (Thunb.) Briq. var. <i>salicina</i> (Burch. ex Benth.) Briq. & <i>Mentha sylvestris</i> L. ssp. <i>polyadena</i> Briq.							
ASTERACEAE	<i>Mikania capensis</i> DC.	<i>Mikania cordata</i> (Burmam f.) B. Linné Robinson <i>Mikania scandens</i> (L.) Wildenow <i>Eupatorium cordatum</i> Burmann f. <i>Mikania oxyota</i> DC.	None	Climber	Hillslope seep	Water cycling	WC, EC, KZN, MP, LP & Swa	Worms: Plant juices Bronchitis: Plant juices Abdominal pains: Plant juices Yellow-fever: Plant juices Bladder: Plant juices Pocks: Plant juices Veneral disease: Leaf	10(87), 20(340), 21(251), 23(NA), 34(258), 39(326)
ASTERACEAE	<i>Mikania natalensis</i> DC.	<i>Mikania cordata</i> Hilliard	E: Mikania; S: udlutshani; Z: ihlozi, ikhambi-lesiduli, umdlonzo; Other: chinaira	Climber	Hillslope seep	Water cycling	KZN & Swa	Urinary complaints: Headache: Backache: Head colds: Leaf Horse sickness Snake bite: Scorpion bite: Sore eyes:	8(210), 10(87), 20(340), 21(251), 23(NA), 34(258), 66(NA)
SCROPHULARIA CEAE	<i>Mimulus gracillis</i> R.Br.	None	E: Wild monkey flowers; S: sehlapetsu	Perennial herb	Channel (river plus banks)	Soil stabilizer	EC, FS, KZN, MP, LP, NW, GA, NC, Bot, Les, Nam & Swa	Irregular menstruation: Tired feverish patients:	8(192), 10(87), 21(938), 23(NA), 25(254), 34(887)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
APOCYNACEAE	<i>Mondia whitei</i> (Hook. f.) Skeels	<i>Chlorocodon whitei</i> Hook.f.	E: White's ginger; Z: umondi	Climber	Floodplain wetland	Soil stabilizer	KZN, LP	Roots: chewed for stomach disorders	1(249), 23(NA), 80(182)
LOBELIACEAE	<i>Monopsis decipiens</i> (Sond.) Thulin	<i>Lobelia decipiens</i> Sond.	E: Butterfly lobelia; A: skoenlapperplant; Z: isidala somkhuhlane	Perennial herb	Hillslope seep	Soil stabilizer	EC, FS, KZN, MP, LP, NW, GA, Les & Swa	Colds: Skin diseases: Rheumatism:	10, 8(496), 10(87), 210, 23(NA), 34(611), 49(334), 53(216), 61(200&201)
GERANIACEAE	<i>Monsonia glauca</i> R.Knuth	<i>Monsonia ovata</i> ssp. <i>glauca</i> Bowden & Mull; <i>Monsonia stricta</i> R.Knuth.	E: Dysentery herb, bushveld monsonia; A: geitabossie, keitabossie, naaldebossie, teebossie, assegaabossie	Perennial herb	Hillslope seep	Soil stabilizer	EC, KZN, MP, LP, GA, NC, Bot, Les & Nam	Stomach complaints: Plant & roots Sleeplessness: Plant & roots; Feverish colds: Plant & Roots Snakebite: Leaves Diarrhoea: Plant & root Anthrax cure: Plant juice	10(88), 21(398), 451 & 452), 23(NA), 34(567), 39(481), 46(55&66), 49(204)
MYRICACEAE	<i>Morella serrata</i> (Lam.) Killick	<i>Myrica conifera</i> Hutch.; <i>Myrica mossii</i> Burtt Davy; <i>Myrica serrata</i> Lam.	E: Mountain waxberry, lance-leaved waxberry; A: bergwasbessie, smalblaarwasbessie, waterolier, gammabos; X: umakhuhuthula, isibhara, umaluleka; Z: umLulama, ulethi, iyethi, umakhuthula	Tree	Channel (river plus banks)	Bank stabilizer; water quality; water cycling; flood retention; species diversity support	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Les & Swa	Sore throat: Bark, leaves & fruit wax Diarrhoea: Bark, leaves & fruit wax Aambele: Bark, leaves & fruit wax Klierterkulose: Bark, leaves & fruit wax Wounds: Fruit wax	10(88), 23(NA), 34(745), 46(74)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
FABACEAE	<i>Mucuna pruriens</i> (L.) DC. var. <i>utilis</i> (Wall. Ex Wight) Baker ex Bruck	Numerous	None	Climber	Channel (river plus banks)	Soil stabilizer	MP	Rheumatism: Trichome Anthelmintic: Trichome Snake-bite: Plant Scorpion sting: Plant	10(89), 200, 21(632 & 633), 23(NA), 34(534), 42(?)
BORAGINACEAE	<i>Myosotis afropalustris</i> C.H.Wright	None	E: Forget-me-not; A: Vergeet-my-nie	Perennial herb	Hillslope seep	Soil stabilization	EC, FS, KZN & Swa	Hysteria: Whole plant Memory development: Whole plant	10, 8(468), 10(89), 21(150), 23(NA), 34(320), 46(16), 49(230)
BRASSICACEAE	<i>Nasturtium officinale</i> R.Br.	Numerous	E: Watercress, stercors; A: sterkkos, brongras, bronkhorstslai, bronkosslaai, bronkors, bronslaai, stercors; S: kerese	Perennial herb	Channel (river plus banks)	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	WC, EC, FS, KZN, MP, LP, NW & Les	Scurvy: Itching: Antiscorbatic stimulant: Laxative: Nerves: Leaves Brongial 'slym': Leaves 'Watersug': Leaves Gall bladder problems: Leaves Diabetes: Leaves Sores: Leaves	10, 80, 10(90), 170, 21(333 & 1144), 23(NA), 25(68), 34(328), 36(NA), 46(18), 48(26), 83(150)
NYMPHAEACEAE	<i>Nymphaea lotus</i> L.	Numerous	E: White water lily, lotus, Egyptian lily, scared lotus, Egyptian water lily; A: witwaterlelie, waterlelie, waterlelie; Z: amahlolwane	Annual herb	Lakes/Pools	Soil stabilizer; water quality; flood retention; species diversity	KZN, MP, LP, NW, GA, Bot, Nam & Swa	Cystitis: Rhizome Nephritis: Rhizome Metritis: Rhizome Enteritis: Rhizome Fever: Rhizome Insomnia: Rhizome Hysteria: Leaf	30, 10(92), 15(145), 21(802), 23(NA), 25(187), 34(750), 47(119)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
NYMPHAEEA-CEAE	<i>Nymphaea nouchali</i> Burm.f. var. <i>caerulea</i> (Savigny) Verdc.	<i>Nymphaea caerulea</i> Savigny; <i>Nymphaea callantha</i> Conard; <i>Nymphaea capensis</i> Thunb. var. <i>alba</i> K.C.Landon; <i>Nymphaea capensis</i> Thunb. var. <i>capensis</i> ; <i>Nymphaea mildbraedii</i> Gilg; <i>Nymphaea nelsonii</i> Burt Davy; <i>Nymphaea stellata</i> Harv. ; <i>Nymphaea stellata</i> Oliv.	E: Blue water lily; A: blouwaterlelie; X: ikhubalo lechanti, intekwane; Z: amazibu, izeleba, izubuu; Other: tswii	Perennial herb	Lakes/Pools	support Soil stabilizer; water quality; flood retention; species diversity support	EC, FS, KZN, MP, LP, NW, GA, NC, Bot, Nam & Swa	All parts of the plant Coughs: Flowers Colds: Whole plant Diuretic: Roots & stem Narcotic: Decoction of flower Diabetic: Grounded plant Tranquilising: Leaves Asthma: Powdered root Urinary tract: Flowers	20, 8(460), 10(92), 15(145), 21(801), 23(NA), 24(72&170), 25(189), 34(750), 45(30), 47(120), 49(46), 56(132)
NYMPHAEEA-CEAE	<i>Nymphaea nouchali</i> Burm.f. var. <i>zanzibarensis</i> (Casp.) Verdc.	<i>Nymphaea capensis</i> Thunb. var. <i>zanzibarensis</i> (Casp.) Conard; <i>Nymphaea colorata</i> Peter; <i>Nymphaea stellata</i> Willd. var. <i>zanzibarensis</i> (Casp.) Conard	None	Perennial herb	Lakes/Pools	Soil stabilizer; water quality; flood retention; species diversity support	WC, EC, FS, KZN, MP, LP, NW, GA, Nam & Swa	Coughs: Colds: Diuretic: Roots & stem Narcotic: Decoction of flower Diabetic: Grounded plant Tranquilising: Leaves Asthma: powdered root	8(460), 10(92), 15(145), 21(801), 23(NA), 24(72&170), 25(189), 34(750)
ASTERACEAE	<i>Oncosiphon africanum</i> (P.J.Bergius) Källersjö	Numerous	A: Stinkkruid, wildekamille; S: tlhwenya; Z: isugugudane		Depression	Bank stabilization; water quality; water cycling; flood retention	WC	Stuipe: Plant Cholic: Plant Sore Throat: Plant Inflammation: Plant Narcotic: Tea made from dried flowers Wounds: Tooth ache; etc.	10, 10(93), 23(NA), 34(263), 46(33), 66(NA)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
OPHIOGLOSSACEAE	<i>Ophioglossum vulgatum</i> L. ssp <i>africanum</i> Pocock ex J.E.Burrows var. <i>africanum</i>	None	E: Adder's tongue	Fern	Hillslope seep	Soil stabilizer	EC, FS, KZN, MP, LP & NW	Boils:	10(93), 21(1087), 23(NA), 34(78)
HYACINTHACEAE	<i>Ornithogalum thyrsoides</i> Jacq.	Numerous (See 91)	E: African wonder flower, chinkerinchee, common chincherinchee, star-of-Bethlehem, wonder flower; A: gewone tjienkerintjie, tjienkerintjee, viooltjie, witviooltjie	Geophyte	Unchannelled valley bottom wetland	Soil stabilizer; water quality; flood retention; species diversity support	WC	Diabetes: Leaves	10(93), 19(38), 21(710), 23(NA), 34(1068), 43(92), 49(86), 50(95), 54(196-197), 56(64)
ASTERACEAE	<i>Osmitopsis asteriscoides</i> (P.J.Bergius) Less.	<i>Bupthalmum asteriscoides</i> Baill.; <i>Leucanthemum asteriscoides</i> (L.) Kuntze; <i>Osmites asteriscoides</i> P.J.Bergius; <i>Osmitopsis asteriscoides</i> Cass.; <i>Osmitopsis calva</i> Gand.	E: Daisy, mountain daisy, swamp daisy; A: belskruie	Shrub	Hillslope seep	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	WC	All types of colds, Flu and other bronchial infections: Leaves Body aches: Leaves Fever: Leaves Rheumatism: Leaves Wounds: Leaves Stomach complaints: Leaves	10(94), 21(201 & 252), 23(NA), 24(222), 34(263), 43(300), 45(52), 46(35), 49(346 & 398)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
ASTERACEAE	<i>Osmitopsis dentata</i> (Thunb.) K.Bremer	<i>Anthemis afra</i> Burm.f.; <i>Buphthalmum dentatum</i> Baill.; <i>Osmites dentate</i> Thunb.	A: Kaapsebelskruie	Shrub	Hillslope seep	Water cycling	WC	Cough: Inflammation: Colic:	10(94), 21(251), 23(NA), 34(264)
OXALIDACEAE	<i>Oxalis semiloba</i> Sond. ssp. <i>semiloba</i>	None	E: Transvaal sorrel, common sorrel, folded-leaved sorrel; A: suring, Transvaal suring; S: bolila; Z: incangiyane, isibungu, isimuncwane, isimunyane	Geophyte	Hillslope seep	Soil stabilizer	WC, EC, KZN, MP, LP, NW, GA, Bot, Les, Nam & Swa	Thrush: Leaves	8(402), 10(94), 21(812), 23(NA), 24(92), 34(769), 46(76), 49(198)
OXALIDACEAE	<i>Oxalis smithiana</i> Eckl. & Zeyh.	<i>Oxalis galpinii</i> Schltr.	E: Narrow-leaved sorrel; A: klawersuring; S: bolila; X: umuncwane, inkolowane; Z: inkolowane, incangiyane	Geophyte	Hillslope seep	Soil stabilizer	EC, FS, MP, LP, Les & Swa	Tapeworm: nutlets	10(94), 21(813), 23(NA), 24(92), 34(769), 50(95), 60(105), 61(128&129)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
POACEAE	<i>Paspalum distichum</i> L.	Numerous	A: Bulgras, buffelsgras, knopgras, rooikweek, tweevingergras	Grass	Floodplain wetland	Bank stabilizer; water quality; water cycling; flood retention; species diversity support	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Les & Nam	Rheumatism: Eye disease:	10(95), 21(464 & 483), 23(NA), 25(216), 34(1179)
POACEAE	<i>Paspalum scrobiculatum</i> L.	Numerous	E: Creeping paspalum, ditchgrass, koda millet, native millet, scrobic, water grass, wild paspalum, kodae millet, water couch grass; A: dronkgras, slootgras; Z: isiamuyisane	Grass	Unchannelled valley bottom wetland	Bank stabilizer; water quality; water cycling; flood retention; species diversity support	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Bot, Nam & Swa	Scorpion sting: Eye infections: Juices Childbirth: Root & rhizome	10(95), 21(464 & 482), 23(NA), 25(217), 34(1180)
GERANIACEAE	<i>Pelargonium grossularioides</i> (L.) L'Hér	<i>Pelargonium filicaule</i> R.Knuth	A: Rooirabasam, rooirabas, rooirabassam, rooistingelhoutbas, rooipoortje	Perennial herb	Hillslope seep		WC, EC, FS, KZN, NC, Les & Swa	Headache: Abortion: Plant extract Bronchitis: Leaves Inflammation: Leaves	10(96), 21(454), 23(NA), 34(572), 44(39), 46(56)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
GERANIACEAE	<i>Pelargonium luridum</i> (Andrews) Sweet	<i>Pelargonium aconitophyllum</i> (Eckl. & Zeyh.) Steud.; <i>Pelargonium flabellifolium</i> Harv.; <i>Pelargonium longiscapum</i> Schltr.; <i>Pelargonium zeyheri</i> Harv.; <i>Pelargonium flabellifolium</i> var. <i>benguellense</i> ; <i>Pelargonium flabellifolium</i> var. <i>flabellifolium</i>	E: Stork's bill, wild geranium, variable stork's bill, starburst pelargonium; A: wildemalva; Z: iShaqqa, unYawolwenkukhu, uVendle, vendhle, inyonkulu, isandla sonwabu, umsongelo; Other: nyamaropa	Perennial herb	Hillslope seep	Soil stabilizer	EC, FS, KZN, MP, LP, NW, GA, Les & Swa	Dysentery: Rhizome Nausea: Vomiting; Fever: Menstrual problems:	8(400), 10(96), 21(454), 23(NA), 24(130), 34(573), 49(206), 53(168), 66(NA)
POACEAE	<i>Pennisetum purpureum</i> Schumacher.	Numerous	E: Elephant grass, napier fodder, napier grass, m'fufu grass, umfufu grass; A: olifantsgras, m'fufugras; Other: mufufu	Grass	Channel (river plus banks)	Bank stabilizer; water quality; water cycling; flood retention; species diversity support	WC, KZN, MP, LP, GA & Swa	Eyes: Plant juices	10(97), 20(478), 23(NA), 25(217&218), 8), 34(1180), 48(16)
POLYGONACEAE	<i>Persicaria limbata</i> (Meisn.) H.Hara	<i>Persicaria limbata</i> Hara; <i>Polygonum limbatum</i> Meisn.; <i>Polygonum piliferum</i> Hedw.; <i>Polygonum schinzii</i> Hedw.	E: Knot-weed; Other: kubutona	Perennial herb	Channeled valley bottom wetland	Bank stabilizer; water quality; water cycling; flood retention;	FS, MP, NW, GA, NC, Bot & Nam	Swollen neck:Leaves	80, 10(101), 23(NA), 25(230), 34(790), 47(143)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
POLYGONACEAE	<i>Persicaria senegalensis</i> (Meisn.) Soják forma <i>albotomentosa</i> (R.A.Graham) K.L.Wilson	<i>Polygonum glutinosum</i> var. <i>capensis</i> Hedw.; <i>Polygonum lanigerum</i> var. <i>africanum</i> Meisn.; <i>Polygonum senegalense</i> ssp. <i>albotomentosum</i> (R.A.Graham) Germish.; <i>Polygonum senegalensis</i> f. <i>albotomentosum</i> R.A.Graham	E: Snake root; A: Duisendknoop, slangwortel	Perennial herb	Channeled valley bottom wetland	Bank stabilizer; water quality; water cycling; flood retention; species diversity support	EC, KZN, MP, LP, GA, Bot & Swa	Depressant & can stop heart systole; menstrual problems and infertility in men: roots	10, 8(250), 10(101), 15(171), 23(NA), 25(231), 34(790), 83(135)
FABACEAE	<i>Philenoptera violaceae</i> (Klotzsch) Schrire	None	E: Apple leaf; A: Appelblaar; Z: umphanda	Tree	Channel (river plus banks)	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	MP, LP, Bot, Nam & Swa	Roots & leaves	10(101), 23(NA), 34(539), 37(458), 80(210)
FABACEAE	<i>Philenoptera violaceae</i> (Klotzsch)	None	E: Apple leaf; A: appelblaar; NS: mphata; Z: umbhandu	Tree	Channel (river plus banks)	Bank and soil stabilizer; water	MP, LP, Bot, Nam & Swa	Colds:Roots & leaves	10, 80, 10(101), 23(NA),

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
	Schrire					quality; water cycling; flood retention; species diversity support			34(539), 37(458), 82(230)
POACEAE	<i>Phragmites australis</i> (Cav.) Steud.	<i>Phragmites communis</i> Trin.	E: Common reed, carrizo; A: Fluitjiesriet, vleitjiesriet, sonquasriet, vaderlandsriet, vinkriet, vlakkiesriet, spens-van-die-Karoo; Other: olumbungu, eembungu	Grass	Channel (river plus banks)	Bank stabilizer; water quality; water cycling; flood retention; species diversity support	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Bot, Les, Nam & Swa	Burns: Powdered seed Diuretic: Rhizome Diarrhoea: Rhizome Pneumonia: Sweet juice Insect bite: Juice	10(102), 15(198), 18(246), 21(483 & 493), 23(NA), 24(92), 25(219), 34(1183), 46(81), 50(97), 56(42)
SCROPHULARIA CEAE	<i>Phygaleis aequalis</i> Harv. ex Hiern	None	E: River bell, wild fuchsia; A: foksia, rivierklokkie; S: mafifi-matso, metsi-matso	Shrub	Hillslope seep	Soil stabilizer; water quality; Species diversity support	EC, FS, KZN, MP, LP, Les & Swa	Cuts & bruises: Ash of roots; use for Sangomas	8(72), 10(102), 23(NA), 34(891), 53(199), 60(181), 61(178&179), 66(NA)
PHYTOLACCA- CEAE	<i>Phytolacca heptandra</i> Retz.	<i>Phytolacca stricta</i> O. Hoffm. <i>Pircunia stricta</i> Hoffm.	E: Inkberry, wild sweet potato; A: boesman druiwe, inkbossie, inkbessiebos; S: monatja; X: umnyanja	Perennial herb	Unchannelled valley bottom wetland	Soil stabilizer; flood retention	WC, EC, FS, KZN, MP, LP, GA, Les & Swa	Lung sickness: Roots Chest illnesses: Snake-bite: Delirium: Gonorrhoea: Tapeworm remedy:	10(103), 130, 140, 21(834 & 839), 23(NA), 34(776), 39(556),

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
APIACEAE	<i>Pimpinella caffra</i> (Eckl. And Zeyh) D. Dietr.	<i>Anisum caffrum</i> Eckl. And Zeyh.; <i>Cnidium kraussianum</i> Sond.; <i>Foeniculum kraussianum</i> Meisn.	Z. Ibheka	Perennial herb	Hills/lope seep	Soil stabilizer	EC, FS, KZN, MP & LP	Unspecified: intestinal worms	61(104) 1(224), 21(104.1), 23(NA), 80(22)
PITTOSPORACEAE	<i>Pittosporum viridiflorum</i> Sims	<i>Pittosporum abyssinicum</i> Delile var. <i>angolense</i> Oliv.; <i>Pittosporum autunessii</i> Engl.; <i>Pittosporum commutatum</i> Putt.; <i>Pittosporum loribundum</i> Wight & Ait.; <i>Pittosporum kreugerii</i> Engl.; <i>Pittosporum malosananum</i> Baker; <i>Pittosporum quartinianum</i> Cufod.; <i>Pittosporum viridiflorum</i> Sims ssp. <i>malosananum</i> (Baker) Cufod. ; <i>Pittosporum viridiflorum</i> Sims ssp. <i>quartinianum</i> (Cufod.) Cufod.; <i>Pittosporum viridiflorum</i> Sims var. <i>angolense</i> (Oliv.) Cufod.;	E: Chessewood, white Cape beech; A: bosbeukenhout, bosboekenhout, kasuur, kersuurboom, witboekenhout, karsuur; S: mosetlela, kgalagangwe; X: umGqwengqwe; Z: umFusamvu, umPhushane, umphushamvu; Other: mutanzwakhamele, nkasur, mpustinya-poqo, mulandwane	Tree	Channel (river plus banks)	Soil stabilizer; water cycling; flood retention	WC, EC, FS, KZN, MP, LP, NW, GA, Les & Swa	Boils: Stomach problems: Bark Fever: Bark Back pain: Bark Respiratory diseases: Plant	10(104), 130, 170, 21(364 & 847), 23(NA), 24(132), 34(777), 53(161), 60(82)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
LAMIACEAE	<i>Plectranthus laxiflorus</i> Benth.	<i>Pittonium viridiflorum</i> Sims var. <i>commutatum</i> (Putt.) Moeser; <i>Pittonium viridiflorum</i> Sims var. <i>angolense</i> (Engl.) Moeser <i>Cleus laxiflorus</i> (Benth) Roberty; <i>Germanea laxiflorus</i> (Benth.) Hiern.; <i>Plectranthus albus</i> Gürke; <i>Plectranthus almanii</i> A.Chev.; <i>Plectranthus glandulosus</i> Hook.f.; <i>Plectranthus hylophilus</i> Gürke; <i>Plectranthus kondowensis</i> Baker; <i>Plectranthus urticoides</i> Baker; <i>Plectranthus violaceus</i> Gürke	E: Citronella spur-flower; A: sitronella, muishondblaar; Z: udebebe, ufuthane, umadolwane, umsuthuza	Perennial herb	Channeled valley bottom wetland	Bank stabilizer; water quality; water cycling; flood retention; species diversity support	EC, KZN, MP & Swa	Mouthwash: Roots Bleeding teeth: Roots Fever: Powdered leaves Stomach complaints: Powdered leaves Colds: Powdered plant	8(186), 10(105), 21(525), 23(NA), 34(593), 46(61)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
CARYOPHYLLA CEAE	<i>Polycarpaea corymbosa</i> (L.) Lam. var. <i>corymbosa</i>	<i>Achryanthes corymbosa</i> L.	None	Annual herb	Channel (river plus banks)	Soil stabilization	KZN, MP, LP, GA, Bot, Mos, Nam & Swa	Snake-bite remedy: Leaves Anticartarrhal remedy: Leaves Pulmonary tuberculosis: Leaves Hypochoondria: Leaves Jaundice: Leaves Boils: Leaves	10(105), 21(175), 23(NA), 34(352), 39(368)
PRIONIACEAE	<i>Pronium serratum</i> (L.f.) Drege ex E. Mey	None	A: Palmiet; X: intsikane	Perennial herb	Channel (river plus banks)	Bank stabilizer; water quality; water cycling; flood retention; species diversity support	WC, EC & KZN	Food, fibre	18(266), 23(NA), 80(50)
ANACARDIA- CEAE	<i>Protorhus longifolia</i> (Bernh.) Engl.	<i>Rhus longifolia</i> (Bernh.) Sond.	E: Red Cape beech, red beech, purple currant; A: harpuisboom, rooibeukehout, rooibeukeblaar, rooimelkhout, rooiboekenhout; X: umHlutthi, uZintlwa, umKhumiso, iKhubalo, umHluthi-wezinja, umKhambathi, isifuce, umkomiso; Z: isiFice, umHlangothi, umHluthi, umPhuza, isiFuze, isiFico-	Tree	Channel (river plus banks)	Bank stabilization; water recycling	EC, KZN, MP, LP & Swa	Stroke, ulcers, abdominal pains, stomach disorders, backaches and chest: Bark	10(108), 110, 21(49), 23(NA), 34(117), 37(86), 66(NA), 80(130))

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
ROSACEAE	<i>Prunus africana</i> (Hook.f.) Kalkman	<i>Pygeum africanum</i> Hook.f.; <i>Pygeum carssifolium</i> Hauman	sehlathi, umKhumizo, umuThibomvu, umhlangothi E: Red stinkwood, bitter almond tree, African almond, bitter almond, wild almond; A: rooistinkhout, rooistinkhout, bitteramandelboom, bitteramandelhout, nuweamandelhout, Afrika-amandel, bitteramandel, wildekersieboom; S: mogholoro; X: umKhakhazi, iNyazangoma, umkhakhase, itywina-elikhul; Z: umDumezulu, iNkokhokho, umLalume, nGubozinyeweni, umKhakhazi, inYazangomelimnyama, umdumizulu	Tree	Hillslope seep	Soil stabilizer; water cycling; flood retention; species diversity support	FS, KZN & MP	Prostatic hypertrophy: Bark Malaria: Bark Fever: Bark Breast pains: Bark Urinary tract problems: Bark	10(108), 21(458, 894 & 1145), 23(NA), 24(132), 34(824), 37(152), 45(60), 66(NA)
FABACEAE	<i>Psoralea pinnata</i> L. var. <i>pinnata</i>	<i>Psoralea pinnata</i> L.	E: Fountain bush, fountain tree, blue pea; A: bloubos, fonteinbos, bloukeur, keurtjebos, penwortelbos, bloukeurboom,	Shrub	Hillslope seep	Bank stabilization; water quality; water cycling; flood retention;	WC, EC, KZN, MP, LP, Les & Swa	Hysteria: Roots Medically: whole plant	10(108), 21(641), 23(NA), 34(543), 37(460), 420, 44(37),

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
			fonteinhout, keurboom, keurtjiesboom, pinwortel; X: umhlonitshwa, umhlonishwa; Z: umhlongani, umHlonishwa			species biodiversity support			49(284), 53(166), 56(150), 60(99), 80(46)
DENNSTAEDEACEAE	<i>Pteridium aquilinum</i> (L.) Kuhn ssp. <i>aquilinum</i>	None	E: Bracken fern, eagle fern, hog-pasture brake, pasture brake; A: adelaarsvaring, fonteinbultvaring; G: Adlerfern, Christusbwurz; Z: Ukozaniz	Fern	Hillslope seep	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	WC, EC, FS, KZN, MP, LP, NW, GA, Les & Swa	Menstrual irregularity: Leaves	10(108), 19(28), 21(297, 1084, 1089, 1090 & 1145), 22(83), 23(NA), 34(70), 53(100), 54(84, 213, 231, 272-4 & 278), 60(12)
PTERIDACEAE	<i>Pteris dentata</i> Forssk	<i>Pteris cordemoyi</i> C.Chr.; <i>Pteris flabellata</i> Thunb.; <i>Pteris straminea</i> Mettr. ex Baker.	None	Fern	Valleyhead seep	Soil stabilizer	WC, EC, KZN, MP, LP, NW, GA, Les & Swa	Tapeworm:	10(109), 19(109), 21(1093), 23(NA), 34(83)
ASTERACEAE	<i>Pulicaria scabra</i> (Thunb.) Druce	<i>Erigeron scaber</i> Thunb.; <i>Erigeron scabrum</i> Thunb.; <i>Inula capensis</i> Spreng.; <i>Pulicaria capensis</i> DC.; <i>Pulicaria capensis</i>	A: Aambeibos; Z: isiThaphuka	Annual herb	Channeled valley bottom wetland	Bank stabilization; water quality; water cycling; flood retention;	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Bot, Les, Nam & Swa	Haemorrhoids:Leaves Vagina Tumors: Powdered leaves Colds: Powdered leaves	10(109), 21(255), 23(NA), 34(279), 38(355), 66(NA)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
		<i>var. erigeroides</i> (DC.) Harv.; <i>Pulicaria erigeroides</i> DC.				species biodiversity support			
CYPERACEAE	<i>Pycreus nitidus</i> (Lam.) J.Raynal	Numerous	A: Waterbiesie; S: leya-butle, motaoa-taoane, motobane; Z: ikhwane, intsekane	Perennial herb	Channel (river plus banks)	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	WC, EC, KZN, MP, LP, NW, GA, Bot, Nam & Swa	Chest colds: rhizome	8(562), 10(109), 21(374), 23(NA), 25(108), 34(1039), 39(63)
RANUNCULA-CEAE	<i>Ranunculus multifidus</i> Forsk.	<i>Ranunculus pinnatus</i> Poir.; <i>Ranunculus pubescens</i> Thunb.	E: Common buttercup; A: botterblom, kankerblaar, brandblare, geelbotterblom; SS: hlap; Sw: uxhaphozi; Z: ishasha-kazane, isijokazane, uxhaphozi	Perennial herb	Channeled valley bottom wetland	Bank stabilizer; water quality; flood retention; species diversity support	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Les, Nam & Swa	Cough: Whole plant Vomiting: Whole plant Diarhoea: Whole plant Dyspepsia: Whole plant Sore throat: Whole plant Cancer: Whole plant Scabies: Whole plant Mumps: Whole plant Venereal sores: Whole plant Syphilis: Whole plant	8(252), 10(109), 21(880), 23(NA), 25(241), 34(810), 39(570), 44(33), 46(85), 49(186), 53(156), 54(213), 61(112&1131), 80(64)
MYRSINACEAE	<i>Rapanea melanophloeos</i> (L.) Mez	<i>Myrsine melanophloeos</i> (L.) R.Br. <i>Sideroxylon melanophloeos</i> (L.)	E: Cape beech, Cape beech tree, roode buchu; A: beukehout, boekehout, buchu-hout, roode bucku, rooiboekenhout,	Tree	Channel (river plus banks)	Bank stabilizer; water quality; water cycling; flood	WC, EC, KZN, MP, LP & Swa	Emitic: Bark Astringent: Leaves Antihelmitic: Fruit	10(109), 21(787), 23(NA), 34(747), 37(202), 53(190),

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
APOCYNACEAE	<i>Rauvolfia caffra</i> (L.) Sond.	Numerous (See 91)	swartbas, witbeukenhout, witboekenhout, boekenhout, swartbasboom, rooibuchu; S: mogónô; X: isiQwane sehlathi, isiQwandwemshube; Z: isiCalabi, uMaphipha, isiHluthi-wentaba, isiQalaba-sehlathi, uMaphiphakhubalo, uVukakwabafilikhubalo	Tree	Channel (river plus banks)	Bank stabilization; water recycling	WC, EC, KZN, MP, LP, NW, GA & Swa	Hysteria: Bark Insomnia: Bark Headaches: Dried leaves Fever: Malaria: Bark Heart failure: Bark Skin disease: latex in leaves Ascaride: Root & bark Leg sores: Powdered inflorescence	60(152), 66(NA)
RHAMNACEAE	<i>Rhamnus prinoides</i> L'Hér	<i>Alaternus prinoides</i> Raf.	E: Dogwood, redwood, glossy-leaf, Camdeboo stinkwood; A: blinkblaar, rooibos, hondepishout, Kamdeboo-stinkhout, seerkeelboom,	Tree	Channel (river plus banks)	Bank stabilizer; water cycling; flood retention; species diversity	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Les & Swa	Blood cleanser: Root & leaves Sprains: Whole plant Abdominal pain: Roots Pneumonia: Root	10(109), 20(112-114), 21(95 & 96), 23(NA), 24(170), 34(164), 37(358), 46(10), 66(NA), 80(134)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
			blinkblaarboom, Camdeboostinkhout, hondepisboom, perdebessie, perdepisbessie; S: mofifi; X: umglindi, umlindi, umnyenzeZ: umYenye, uNyenya			support			50(99), 53(174)
VITACEAE	<i>Rhoicissus tridentata</i> (L.f.) Wild & R.B.Drumm ssp. <i>cuneifolia</i> (Eckl. & Zeyh.) Urton	<i>Cissus cuneifolia</i> Eckl. & Zeyh.; <i>Rhoicissus cirrhiflora</i> (L.f.) Gilg. & M.Brand; <i>Rhoicissus cuneifolia</i> (Eckl. & Zeyh.) Planch.; <i>Rhoicissus erythrodes</i> (Fresen.) Planch.; <i>Rhus cirrhiflorum</i> L.f.; <i>Vitis cuneifolia</i> (Eckl. & Zeyh.) Szyszyl.; <i>Vitis erythrodes</i> Fresen.	E: Bushman's grape; A: bosdruif, boesmans druif; L: momgolo pudi; Sw: sinwati; V: mutumbula; Z: isinwazi	Climber	Floodplain wetland	Soil stabilizer	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Bot, Les & Swa	Menstrual cramps: Tuber Female infertility: Tuber Colds: Tuber Bleeding peptic ulcers: Tuber Kidney & Bladder: Tuber Gonorrhoea: Tuber Backache: Tuber Epilepsy: Tuber Insanity: Tuber Blood purifying: Roots Vomiting: Roots	10(109), 20(25), 21(1060), 23(NA), 24(190), 34(948), 37(392), 39(650), 53(174)
SALICACEAE	<i>Salix mucronata</i> Thunb. ssp. <i>woodii</i> (Wilmsii = not current name 23)	None	E: Cape willow, Wood's willow, Transvaal willow; A: Kaapse wilger, Natal-wilger, Transvaal-wilger, fluitjies-wilger; S: mogokare; X: umngcunube; Z: umnyezane, umzekana	Tree	Channel (river plus banks)	Soil stabilizer; water cycling; flood retention; species diversity support	EC, FS, KZN, MP, NC, Les & Swa	Rheumatism: Branch & leaves Fever:Leaves Burns: Bark Urinary troubles: Bark	10(110), 21(925), 24(132), 37(116), 48(161 & 269), 60(68)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
LAMIACEAE	<i>Salvia coccinea</i> Etl.	Numerous (See 91)	E: Red salvia, scarlet salvia, South American sage, Texas sage, Texas salvia; A: maksalie, rooisalie, vra-vir-pa	Shrub	Unchannelled valley bottom wetland	Soil stabilizer	EC, KZN, MP, LP, NC, Nam & Swa	Lumbago: Leaves Kidney disease: Leaves Pulmonary tuberculosis: Leaves	10(110), 21(526), 23(NA), 34(595), 39(501)
FABACEAE	<i>Schotia brachypetala</i> Sond.	<i>Schotia latifolia</i> sensu Dale; <i>Schotia semireducta</i> Merxm.	E: African walnut, African greenheart, tree fuchsia, weeping boerboon, South African greenheart, Hottentot's bean tree, weeping boer-bean, fuchsia tree; A: boerboon, huilboerboon, huilboerboom; S: molope; X: umGxam, iShumnumyane, umfofofo; Z: umGxamu, uVovo, iHluze, uvovovo; Other uVovovo, nwavilombe, mulibi, mumunzwa, mumunzwu	Tree	Channel (river plus banks)	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	EC, KZN, MP, LP, GA & Swa	Heartburn: Bark Hangover: Bark Nervous conditions: Bark Diarrhoea: Plant	10(111), 21(645 & 646), 23(NA), 24(134), 34(548), 37(424)
CYPERACEAE	<i>Scleria melanophala</i> Kunth	<i>Scleria centralis</i> Cherm.; <i>Scleria macrantha</i> Boeckeler (illegitimate); <i>Scleria melanocephala</i> Drège; <i>Scleria tisserantii</i> Cherm.	None	Sedge	Floodplain wetland	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	EC, KZN, MP, LP, Bot & Swa	Dysmenorrhoea:	10(111), 15(217), 18(187), 23(NA), 34(1044)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
GENTIANACEAE	<i>Sebaea leistyla</i> Gilg.	<i>Sebaea polyantha</i> Gilg.	None	Perennial herb	Hillslope seep	Bank stabilization; flood retention; species biodiversity support	WC, EC, FS, KZN, MP, LP, GA, NC, Les & Swa	Snake-bite remedy: Leaves	10(111), 21(448), 23(NA), 34(564), 53(192)
GENTIANACEAE	<i>Sebaea sedoides</i> Gilg. var. <i>confertiflora</i> (Schinz) Marais	<i>Sebaea confertiflora</i> Schinz	E: Yellow wort; A: naeltjiesblom	Annual herb	Floodplain wetland	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	EC, FS, KZN, MP, LP, Les & Swa	Stomach: Plant used as enema	8(298), 10(111), 23(NA), 34(565), 49(254), 53(192)
GENTIANACEAE	<i>Sebaea sedoides</i> Gilg. var. <i>schoenlandii</i> (Schinz) Marais	<i>Sebaea schoenlandii</i> Schinz; <i>Sebaea sedoides</i> Gilg p.p..	E: Yellow wort; A: naeltjiesblom	Annual herb	Unchannelled valley bottom wetland	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	FS, KZN, MP, Les & Swa	Stomach: Plant used as enema	8(298), 10(111), 23(NA), 34(565), 49(254), 53(192)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
GENTIANACEAE	<i>Sebaea sedoides</i> Gilg. <i>Sebaea sedoides</i> var. <i>sedoides</i>	<i>Sebaea sedoides</i> Gilg.	E: Yellow wort; A: naeltjiesblom; Z: isivumelwane esikhulu, umanqwenyana, umsolo	Shrub		Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	EC, FS, KZN, MP, LP, Les & Swa	Stomach: Plant used as enema	8(298), 10(111), 23(NA), 34(565), 49(254), 60(158), 61(156&157)
ASTERACEAE	<i>Senecio inornatus</i> DC.	<i>Senecio caulopterus</i> DC.; <i>Senecio diversidentatus</i> Muschl.; <i>Senecio fraudulentus</i> E. Phillips & C.A.Sim.; <i>Senecio macroalatus</i> M.D.Hend.; <i>Senecio ommanei</i> S.Moore; <i>Senecio serra</i> Sond.; <i>Senecio sneeuwbergensis</i> Bolus; <i>Senecio lygodes</i> Hiern.	S: lehlongoana-lelehlo; Z: inkanga, uhlabo	Perennial herb	Channeled valley bottom wetland	Soil stabilization	EC, FS, KZN, MP, LP, NW, GA, NC, Les & Swa	Palpitations: Roots Phthisis: Roots Coughs: Roots Difficult breathing: Roots	8(324), 10(111), 21(274 & 285), 23(NA), 34(287), 53(228)
ASTERACEAE	<i>Senecio speciosus</i> Willd.	<i>Senecio concolor</i> DC.	E: Beautiful senecio, SS: sebea-molio-seneye-nyane; X: idambiso; Z: ibohlololo, idambiso, inzwabuhlungu	Perennial herb	Hillslope seep	Soil stabilization	WC, EC, FS, KZN, MP, LP, GA, NC, Les & Swa	Chest complaints: Leaf & stalk Dropsy: Headaches: Poultices: Leaves Wounds: Leaves Swelling: Leaves	8(444), 10(111), 21(284 & 288), 23(NA), 34(292), 49(382), 53(229)
FABACEAE	<i>Sesbania sesban</i> (L.) Merr. ssp.	None	E: Egyptian sesban, rattlepod	Tree	Floodplain wetland	Bank stabilization;	KZN, LP & Nam	Inflammation: Stomach:	10(112), 15(133),

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
	<i>sesban</i> var. <i>sesban</i>					water quality; water cycling; flood retention; species biodiversity support		Throat: Gonorrhoea: Syphilis: Yaws: Fits:	21(646), 23(NA), 25(135), 34(550)
POACEAE	<i>Setaria sphacelata</i> (Schumach.) Stapf & C.E.Hubb. ex M.B.Moss var. <i>sericea</i> (Stapf) Clayton	None	E: Bristle grass; A: mannagras	Grass	Floodplain wetland	Bank stabilizer; water quality; water cycling; flood retention; species diversity support	EC, FS, KZN, MP, LP, NW, GA, Bot, Nam & Swa	Open wounds:	10(113), 110, 15(201), 21(485), 23(NA), 24(12), 34(1187), 54(221 & 223)
MALVACEAE	<i>Sida dregei</i> Burt Davy	<i>Sida lancifolia</i> Burt Davy; <i>Sida longipes</i> E.Mey. ex Harv.	E: Spider-leg, Sutherland's curse; Z: umdiza wethafa	Annual herb	Valleyhead seep	Soil stabilizer	WC, EC, FS, KZN, MP, LP, NW, GA, Mos & Swa	Sores: Leaves Syphilis: Leaves Other specie (<i>cordifolia</i>): Diarhoea: Leaves & Roots Rheumatism: Leaves Lung infections: Leaves Fever: Leaves Syphilis: Leaves	8(284), 10(114), 20(549), 21(299 & 742), 23(NA), 34(627)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
ASTERACEAE	<i>Spilanthes mauritiana</i> (Pers.) DC.	<i>Spilanthes africana</i> DC.	Z: Isisili, isisinini	Climber	Unchannelled valley bottom wetland	Water cycling	EC, KZN, MP, LP & Swa	Toothache: Leaves, root & flower Sore gums: Leaves Sore throat: Leaves Pyorrhoea: Flower Snake-bite: Plant Headache: Flower & fruit Rheumatism: Plant, etc.	80, 10(115), 21(292), 23(NA), 25(64), 34(296)
EUPHORBIA-CEAE	<i>Spirostachys africana</i> Sond.	<i>Excoecaria africana</i> (Sond.) Müll.Arg.; <i>Excoecaria synandra</i> Pax; <i>Excoecariopsis synandra</i> (Pax) Pax; <i>Sapium africanum</i> (Sond.) Kuntze; <i>Spirostachys synandra</i> (Pax) Pax; <i>Stillingia africana</i> (Sond.) Baili;	E: African sandalwood, Cape sandalwood, jumping bean tree, African mahogany tree; A: gifboom, melkhout, sandaleenhout, tambotie, tambotieboom, sandalienhout, tamboti, agelhout; N: ubande; S: morekuri; Sw: umThombotsi; V: muonze; X: umThomboti; Z: umThomboti; Other: ndzopfori	Tree	Channel (river plus banks)	Bank stabilization; water quality; water cycling; flood retention; species biodiversity support	EC, KZN, MP, LP, NW, GA, Nam & Swa	Eye diseases: Plant juices Ulcers: Plant juices Abdominal pains: Plant juices Temporary blindness: Plant juices Eye & skin irritations: Plant juices Tooth ache: Latex Kidney problems: Bark	10(115), 20(640), 21(436), 23(NA), 24(212). 34(471), 37(108), 46(49), 60(112)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
SCROPHULARIA CEAE	<i>Sutera floribunda</i> (Benth.) Kuntze	<i>Cheanostoma floribudum</i> Benth.	A: Kerriebos; S: boluma; Z: usikisiki lwehlathi	Perennial herb	Valleyhead seep	Soil stabilizer	EC, FS, KZN, MP, LP, Les & Swa	Chest colds: Root; Menstrual pains:	8(190), 10(119), 21(939) 23(NA), 34(905)
FABACEAE	<i>Sutherlandia frutescens</i> (L.) R.Br.	<i>Colutea frutescens</i> L.	E: Balloon pea, camphor bush, cancer bush, turkey flower, belletjie heath; A: kankerbossie, belletjie, randjies, gansies, gansiesbos, gansieskleur, hoenderbelletjie, Jantjie-bêrend, kiepiebos, kipkippers, klapperswildekeur, hoenderkloek, eendjiesblom, gansiesblom, kalkoenbos, kalkoenbelletjieblom, kalkoentjiesbos, kankerbos, belbos, Jantjiebarend, hoenderklok, kalkoenbelletjiesbos,	Shrub	Channel (river plus banks)	Bank and soil stabilizer; water quality; flood retention; species diversity support	WC, EC, FS, KZN, MP, NW, NC, Bot, Les & Nam	Eye ailments: Leaves; Pain: Leaves; Influenza: Leaves; Cancer: Leaves; Fever: Flowers; Poor appetite; ; Idigestion: Leaves; Gastritis: Leaves; Oesophagitis: Leaves; Peptic ulcer: Leaves; Dysentery: Leaves; Cancer: Leaves; Diabetes: Leaves; Colds: Leaves; Small pocks: Leaves; etc. Leaves & twigs	8(58), 10(119), 21(649), 23(NA), 24(148), 34(550), 45(96), 46(52), 49(278), 50(105), 51(180), 53(146), 56(150), 61(124), 66(NA)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
			belletjieheide, gansbossie; X: umnwele; Z: umnwele						
MYRTACEAE	<i>Syzygium cordatum</i> Hochst. ex C.Kraus	None	E: Water berry, water wood; A: waterbessie, waterbessieboom, waterboom, waterbos, waterhout, without, waterhoutboom, withoutboom, witwaterhout; S: motu, mawtoo, mawthoo; X: umJoni, umSwi; Z: umDoni	Tree	Channel (river plus banks)	Bank stabilizer; water quality; water cycling; flood retention; species diversity support	EC, KZN, MP, LP, Bot & Swa	Emetic: Bark Stomach problems: Bark & leaves Diarrhoea: Bark & leaves fruit Tuberculosis: Plant	10, 30, 10(119), 15(133), 21(800), 23(NA), 24(58&134), 34(749), 37(320), 60(144)
MYRTACEAE	<i>Syzygium gerrardii</i> (Harv. ex Hook.f.) Burt Davy	<i>Syzygium guineense</i> ssp. <i>guineense</i> ; <i>Acmena gerrardii</i> ; <i>Syzygium fourcadei</i>	E: Bush-waterwood, forest waterwood, water pear; A: boswaterhout, waterhout, waterhoutboom, waterpeer; Other: mupone, mutuwi			Soil stabilizer; water cycling; flood retention	EC, KZN, MP, LP & Swa	Tuberculosis: Bark Chest complaints: Bark	20, 10(119), 21(800), 23(NA), 24(58), 34(748), 37(322)
MYRTACEAE	<i>Syzygium guineense</i> (Willd.) DC ssp. <i>guineense</i>	<i>Syzygium guineense</i> (Willd.) DC	E: Water pear; A: waterpeer	Tree	Floodplain wetland	Soil stabilizer; water cycling; flood retention	KZN, MP, LP & Swa	Dysintery: Fruit Diarrhoea: Root & bark	30, 10(119), 21(800), 23(NA), 24(58),

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
APOCYNACEAE	<i>Tabernaemontana elegans</i> Stapf	<i>Conopharyngia elegans</i> (Stapf) Stapf; <i>Leptopharyngia elegans</i> (Stapf) Boiteau	E: Toad tree; A: paddaboom; Other: muhatu, copo-copo, cundudzi, kapwapwe, mukashu, ruchena	Tree	Channel (river plus banks)	Bank stabilization; water recycling	KZN, MP, LP & Swa	Bleeding: Latex Styptic: Latex Pulmonary disease: Root Other species (<i>crassa</i>): Disinfection: Latex Wounds: Latex Parasites: Latex	34(748), 37(322), 60(144)
LAMIACEAE	<i>Tetradenia riparia</i> (Hochst.) Codd	<i>Basilicum myriostachyum</i> (Benth.) Kuntze; <i>Basilicum riparium</i> (Hochst.) Kuntze; <i>Gumira ferruginea</i> (A.Rich.) Kuntze; <i>Iboza riparia</i> (Hochst.) N.E.Br.; <i>Moschosma riparium</i> Hochst.; <i>Plectranthus riparius</i> Hochst.; <i>Premna ferruginea</i> A.Rich.	E: Misty plume bush; A: gemmerbos; Z: iboza, ibozane	Shrub	Floodplain wetland	Bank stabilizer	KZN, MP, LP, Bot, Nam & Swa	Coughs: Sore throats: Stomach ache: Malaria:	8(472), 10(122), 23(NA), 34(599), 49(420)
MELIACEAE	<i>Trichilia emetica</i> Vahl. ssp. <i>emetica</i>	None	E: Natal mahogany, Christmas bells, Cape mahogany, red ash, thunder tree; A: essenhout, rooiesenhout, basteressenhout, mahoniehout; S:	Tree	Channel (river plus banks)	Bank and soil stabilizer	KZN, MP, LP, Bot, Nam & Swa	Rheumatism: Seed oil extract Cuts: Seed oil extract Fractured bone: Oil extract Leprosy: Oil Sore back: Bark & leaf	10(124), 21(18, 752 & 878), 23(NA), 24(268,234), 34(630), 37(468)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
FABACEAE	<i>Trifolium africanum</i> Ser. var. <i>lydenburgense</i> J.B.Gillett	None	mmaba, umKuhlu; Z: umKhuhlu, uMathunzi; Other: nkuhla, mutshikili, ankhulu, maawa E: African clover	Perennial herb	Hillslope seep	Soil stabilizer	KZN, MP, GA & Swa	f	20, 30, 8(388), 10(124), 21(663), 23(NA), 34(554), 49(286)
ALLIACEAE	<i>Tulbaghia ludwigiana</i> Harv.	None	E: Scented wild garlic; Sw: ingotjiwa, sikwa; Z: umwelela-kweli-phesheya	Geophyte	Hillslope seep	Bank stabilization	EC, FS, KZN, MP, LP, Les & Swa	Snake repellent; Depressed fontanel; Plant Menstrual problems, chest problems, fever, asthma, ulcers, constipation, stomach problems	8(510), 10(127), 23(NA), 34(956), 53(120), 66(NA), 80(174)
TYPHACEAE	<i>Typha capensis</i> (Rohrb.) N.E.Br.	<i>Typha latifolia</i> ssp. <i>capensis</i> Rohrb.	E: Bulrush; A: papkuil, vleibiesie; SS: motsitia; Sw: ibhuma; X: ingcongolo, umkhanzi; Z: ibhuma	Perennial herb	Channeled valley bottom wetland	Soil stabilizer; water quality; water cycling; flood retention; species diversity support	WC, NC, Bot, Les, Nam & Swa	Venereal disease: Root Expelition of placenta: Root Wounds: Flowers Diarhoea: Rhizome Urinary problems: Rhizome Bleeding: Rhizome Swelling: Rhizome	20, 30, 8(560), 10(127), 15(178), 21(1031), 23(NA), 24(192), 25(258), 34(1213), 43(68), 50(107), 53(103)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
TYPHACEAE	<i>Typha domingensis</i> Pers.	Numerous (See 91)	EA: Southern cattail	Perennial herb	Unchannelled valley bottom wetland	Soil stabilizer; water quality; water cycling; flood retention; species diversity support	NW & Bot	Diuretic: Leaves Bleeding: Seed	80, 10(127), 18(353), 23(NA), 25(258), 34(1213), 40(NA)
LENTIBULARIA CEAE	<i>Utricularia livida</i> E.Mey.	<i>Utricularia dregei</i> Kamiński; <i>Utricularia dregei</i> Kamiński var. <i>stricta</i> Kamiński; <i>Utricularia elevata</i> Kamiński; <i>Utricularia elevata</i> Kamiński var. <i>macowanii</i> Kamiński; <i>Utricularia engleri</i> Kamiński; <i>Utricularia humilus</i> Phillips; <i>Utricularia livida</i> Kamiński var. <i>engleri</i> (Kamiński) Stapf; <i>Utricularia livida</i> Kamiński var. <i>micrantha</i> Kamiński; <i>Utricularia livida</i> Kamiński var.	E: Bladderwort; A: blaskruid; S: tlamana-sa-metsi; Z: intambo	Perennial herb	Hillslope seep	Bank stabilizer; water quality; water cycling; flood retention; species diversity support; insectivorous	EC, FS, KZN, MP, LP, NW, GA, Les & Swa	Babies to keep milk down:	8(486), 10(128), 15(149), 23(NA), 25(168), 34(602), 49(430), 53(184 & 206)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
		<i>pauciflora</i> Kamieński; <i>Utricularia longecalcarata</i> Benj.; <i>Utricularia sanguinea</i> Oliv.; <i>Utricularia sanguinea</i> Oliv. var. <i>minor</i> Kamieński; <i>Utricularia transrugosa</i> Stapf							
VALERIANA- CEAE	<i>Valeriana capensis</i> Thumb. var. <i>capensis</i>	<i>Valeriana capensis</i> Thumb.	E: Cape valerian; A:wildebalderjan; S: Motetele	Perennial herb	Channeled valley bottom wetland	Soil stabilizer; water quality; water cycling; flood retention; species diversity support	WC, EC, FS, KZN, MP, LP, NW, GA, Les & Swa	Insomnia: Root tincture Hysteria: Root tincture Epilepsy: Root tincture Fever (also typhoid): Plant as diaphoretic Antispasmodic: Essential oil from roots Illness: plant to fumigate room	8(204), 10(128), 21(514 & 1046), 23(NA), 24(174), 34(941), 53(210)
RUTACEAE	<i>Vepris lanceolata</i> (Lam.) G.Don	<i>Vepris undukata</i> Verdoorn & C.A.Sm.	E: White ironwood; A: wit ysterhout; Z isutha, umzame	Tree	Channel (river plus banks)	Soil stabilizer; water cycling; flood retention; species diversity support	WC, EC, KZN, MP, LP & Swa	Colic: Roots Influenza: Roots	10(128), 21(925), 23(NA), 34(851), 37(396), 66(NA), 80(234)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
ASTERACEAE	<i>Vernonia amygdalina</i> Delile	Numerous (See 91)	A: Blouteebos; Other: Chipanza, futsa, navate, tsonzoro	Shrub	Floodplain wetland	Bank stabilization; water quality; water cycling; flood retention	KZN, MP, LP, Bot & Swa	Gastro-intestinal: Leaves Cleaning teeth: Peeled bark Veneral disease: Bark diarrhoea: Bark Bilharzia: Root bark & fruit Abortion induction: Plant Uterine pain: Infusion of root	10(129), 15(136), 20(683), 21(296), 23(NA), 24(194), 34(307), 49(356)
ASTERACEAE	<i>Vernonia colorata</i> (Wild.) Drake ssp. <i>colorata</i>	Numerous (See 91)	Z: Ibozane; Other: lile, navati, nhathela, pacha, tsondzoro	Shrub	Floodplain wetland	Bank stabilization; water quality; water cycling; flood retention	EC, KZN, MP, LP & Swa	Tonic: Root & bark Cough: Root	10(129), 12(297), 23(NA), 34(307), 37(162), 49(356)
ASTERACEAE	<i>Vernonia glabra</i> (Steetz) Vatke var. <i>glabra</i>	<i>Cacalia obconica</i> Kuntze; <i>Linzia glabra</i> Steetz.; <i>Vernonia glabra</i> var. <i>ondongensis</i> (Klatt.) Merxm.; <i>Vernonia obconica</i> Oliv. & Hiem.; <i>Vernonia ondongensis</i> Klatt.; <i>Vernonia pogosperma</i> Klatt.; <i>Vernonia roseopapposa</i> Gilli	None	Perennial herb	Floodplain wetland	Bank stabilization; flood retention	KZN, MP, LP, Bot, Nam & Swa	Other spesie (var. <i>laxa</i>): Abortion: Roots Burns: Leaves Eye problems: Leaves General sickness: Leaves & roots Infertility: Powdered root Kidney problems: Roots: Sexual disease: Roots Stomach problems: Roots	10(130), 23(NA), 34(307), 47(57)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
FABACEAE	<i>Vigna luteola</i> (Jacq.) Benth. var. <i>luteola</i>	None	Z: Isikhwali, ithangela	Climber	Unchannelled valley bottom wetland	Soil stabilizer	WC, EC, KZN, MP, LP, Bot & Nam	Syphillis: Leaves Ulcers: Leaves Fever:	50, 8(274), 10(134), 15(178), 21(889), 23(NA), 34(556)
MENYANTHACEAE	<i>Villarsia capensis</i> (Houtt.) Merrh.	None	E: Cape bogbean	Perennial herb	Channeled valley bottom wetland	Bank stabilizer; water quality; flood retention; species diversity support	WC & EC	Antiscorbutic: Febrifuge: Haemorrhoids: Ointment	80, 10(135), 21(449), 23(NA), 25(184), 34(633), 43(258)
APOCYNACEAE	<i>Voacanga thoursii</i> Roe. And Schult.	Numerous (See 91)	E: Quinine tree; Z: Inomfe	Tree	Channel (river plus banks)	Bank stabilization; water quality improvement ; flood retention; water cycling; species diversity support	EC & KZN	Fruit: food Latex: bird lime	3(506), 23(NA), 80(134)
CAMPANULACEAE	<i>Wahlenbergia procumbens</i> (Thumb.) A.DC.	<i>Campanula procumbens</i> Thunb.	E: Wild violet	Perennial herb	Hillslope seep	Soil stabilization	WC & EC	Poultice ingredient	10(135), 21(158), 23(NA), 34(344), 38(399), 43(278)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
CAMPANULA-CEAE	<i>Wahlenbergia rivularis</i> Diels	<i>Wahlenbergia tysonii</i> Zahlbr.	None	Perennial herb	Valleyhead seep	Soil stabilization	LEC, FS, KZN, MP & Les	Abcess on mothers breast: leaves Unweaned baby: Root infusion	10(136), 23(NA), 34(345)
CAMPANULA-CEAE	<i>Wahlenbergia undulata</i> (L.f.) A.DC.	<i>Campanula procumbens</i> L.f.; <i>Wahlenbergia caledonica</i> Sond.; <i>Wahlenbergia dinteri</i> Brehmer; <i>Wahlenbergia polychotoma</i> Brehmer; <i>Wahlenbergia scoparia</i> Brehmer	E: Bluebell; Z: u-Qhaboza.	Perennial herb	Valleyhead seep	Soil stabilization	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Bot, Les, Nam & Swa	Eye infections: Lotion Ulcers:	10(136), 21(158), 23(NA), 34(346), 49(328), 60(203), 61(202&203)
ARACEAE	<i>Zantedeschia aethiopica</i> (L.) Spreng.	<i>Calla aethiopica</i> L.; <i>Richardia aethiopica</i> (L.) Spreng.; <i>Richardia africana</i> Knuth; <i>Zantedeschia aethiopica</i> (L.) Spreng. var. <i>minor</i> Engl.	E: white arum lily, arum lily, calla lily, Egyptian lily, florist's lily, garden calla, Jack-in-the-pulpit, lily-of-the-nile, pig lily, trumpeter lily; A: Varklelie, witvarkoor, varkoor, aronskelk, varkiesblaar, varkiesblom, hottentotsblare, hottentotsbrood, varkore, varkwortel, ystervarkwortel; S: mhala-litoe, mothebe; Other: umfana-kamacejane; X: intebe; Z: intebe emhlophe,	Geophyte	Flat	Bank stabilization; water quality improvement ; flood retention; water cycling; species diversity support	WC, EC, FS, KZN, MP, LP, NW, Les & Swa	Headaches: Decoction of roots Poultice: Wounds: Leaves & Bulb Boils: Leaves Externally: Decoction of roots Insect bites: Leaves Abscess & Boils: Leaves Lung infections: Bulb	8(84), 10(137), 21(115 & 116), 23(NA), 24(202), 25(61), 34(972), 43(80), 44(2), 46(0), 49(48), 51(38), 53(116), 54(214), 55(28), 56(46), 61(26), 80(184)

Family	Genus and specie name	Synonyms	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
ARACEAE	<i>Zantedeschia albomaculata</i> (Hook.) Baill. ssp. <i>macrocarpa</i> (Engl.) Letty	<i>Richardia macrocarpa</i> Engl. W. Watson; <i>Zantedeschia macrocarpa</i> Engl.; <i>Zantedeschia melanoleuca</i> (Hook.f) var. <i>concolor</i> Burt Davy	ihlukwe E: Arrow-leaved arum, spotted-leaved arum; A: kleinvar'koor, witvlekvarkoor; SS: mohalalithoe, mothebe; Sw: umfanakamacejane; Z: intebe	Geophyte	Hillslope seep	Bank stabilization; water quality improvement ; flood retention; water cycling; species diversity support	EC, FS, KZN, MP, LP, Les & Swa	Miscarrriage prevention: Decoction Nursing breasts: Leaf poultice	70, 8(86), 10(138), 23(NA), 24(194), 25(61), 34(912), 49(48), 53(116), 54(214), 61(26)

Appendix 4: List of plants occurring in freshwater ecosystems that might be utilised for medicinal purposes.

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
PTERIDACEAE	<i>Acrostichum aureum</i> L.	E: mangrove fern	Fern	Floodplain wetland	brackish or saline marshes, in mangrove vegetation	Bank and soil stabilizer; water quality; flood retention; species diversity support	KZN,ECP	?	10(116), 25(44)
ACANTHACEAE	<i>Adhatoda andromeda</i> (Lindau) C.B.Clarke	A: Valsmoeraskruid; Z: umusa omncane	Tree	Unchannelled valley bottom wetland	?	?	EC, FS & KZN	?	10?, 23(NA)
ASPHODELACEAE	<i>Aloe cooperi</i> Baker ssp. <i>pulchra</i> Glen & D.S.Hardy (RDS)	E: Cooper's aloe; Sw: lisheshelu; Z: inqimindolo, isiphukuthwan	Perennial herb	Floodplain wetland	Rough grassland and thorny forest margins	Soil stabilization	SWZ, NNP, MPU, FST, KZN;? 8(32)	Ease birth: ?	1(33), 8(32), 10(24), 21(681)
LYTHRACEAE	<i>Ammannia pruriens</i> Guill. & Perr.	None	Annual herb	Channel (river plus banks)	Edge or in temporary pools, ditches, rivers	Soil stabilizer; water quality; Flood retention	JBOR,SWZ, NNP,NWP, GAU,MPU	?	10(94), 25(175)
THELYPTERIDACEAE	<i>Ampelopteris prolifera</i> (Retz.) Copel.	?	Fern	Aquatic	Very wet areas	Bank and soil stabilizer; water quality; flood retention; species diversity support	NNP,MPU,K ZN	?	20, 10(133)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
BORAGINACEAE	<i>Anchusa capensis</i> Thunb.	E: Forget-me-not, Cape forget-me-not; A: koringblom, vergeet-my-nietjie, ossetongblaar, ystergras	Annual herb	Channel (river plus banks)	Streambanks or marshy places	Bank and soil stabilizer; water quality; flood retention; species diversity support	NAM,SWZ,LES,NNP,NW P,GAU,MPU, FST,ECP,NC P,WCP	?	10(42), 23(NA), 39(350)
POACEAE	<i>Andropogon gayanus</i> Kunth var. <i>polycladus</i> (Hack.) Clayton	E: Blue grass	Grass	Hillslope seep	Shady patches and in rock crevices	Soil stabilizer	KZN, MP, LP,Bot, Nam & Swa	?	10, 80, 90, 10(108), 110
COMMELINACEAE	<i>Aneilema aequinoctiale</i> (P.Beauv.) G.Don	E: Clinging Aneilema; Sw: idangabane; Z: elikhulu	Perennial herb	Hillslope seep	forest margins, moist humid places	Soil stabilizer; flood retention	SWZ,NNP,MPU,KZN,ECP; 8(222) (E.Cape to tropical Africa)	?	10, 90, 8(222), 10(50), 110
POACEAE	<i>Anthoxanthum ecklonii</i> (Nees ex Trin.) Stapf	E: Sweet vernal, sweet vernal grass	Grass	Channel (river plus banks)	Moist streambanks and grassy mountainous slopes, extending to forest margins	Soil stabilizer	WC, EC, FS, KZN, MP & Les	?	90, 10(108), 23(NA), 39(137)
EUPHORBIAEAE	<i>Antidesma venosum</i> E.Mey. Ex Tul.	E: Tassel berry; A: tosselbessie, voëlsitboom; Z: isangowane, isibangamlotha	Tree	Floodplain wetland	Moist bushveld, wooded grassland, sand forest and along forest margins	Soil stabilizer, water quality, flood retention; species diversity support	EC, KZN, MP, LP, Bot, Nam & Swa	Coughs: infusion of root, leaves; Fertility, menstruation problems: root extract; Ease body aches: root flaked and soaked in bath water; Dysentery: rootbark;	1(164), 5(126), 80, 10(62), 150, 21(397)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
POACEAE	<i>Arundinella nepalensis</i> Trin.	E: River grass	Grass	Channel (river plus banks)	Rivers, vleis and marshes	Soil stabilizer; water quality; flood retention; species diversity support	WC, EC, FS, KZN, MP, LP, NW, GA, Les & Swa	Abdominal disorders: leaves mixed with other plants; Infertility, menorrhagia, dysmenorrhoea: root; Snakebite: roots chewed; Liver complaints: seed infusion; Treat hookworm: root?	80, 10(108), 68(205)
CHENOPODIA-CEAE	<i>Atriplex semibaccata</i> R.Br. var. <i>typica</i> Aellen	None	Shrub	Floodplain wetland	Grassland & woodland along water-courses	Soil stabilizer; flood retention	EC, FS, MP, LP, NW, GA, Bot & Swa	?	10(48)?, 23(NA), 39(373)
CHENOPODIA-CEAE	<i>Atriplex vestita</i> (Thumb.) Aellen var. <i>appendiculata</i> Aellen	E: Cape salt bush; A: koloniallebrak, kaloniallebrakb ossie, karoobrak, brakbos, brakbossie	Perennial herb	?	?		WP, EC, NW, NC & Nam	bronchitis: hot poultice	10(48)?, 21(185), 23(NA)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
SCROPHULARIACEAE	<i>Bacopa crenata</i> (P.Beauv.) Hepper	None	Annual herb	Channel (river plus banks)	Banks of pools, along streams, ditches, at times submerged in water	Bank and soil stabilizer; water quality; flood retention; species diversity support	KZN	?	10(127), 25(243), 34(865)
LECYTHIDACEAE	<i>Barringtonia racemosa</i> J.R.Forst.? (L. Roxb.)	E: Blackwaterma ngrove, guava, horse chestnut, powder-puff tree; A: poeierkwasbo om; Z: iboqo, umululuka	Tree	Channel (river plus banks)	Coastal swamps, estuaries, near water	Bank and soil stabilizer; water quality; water cycling; flood retention; species diversity support	KZN; P62 (2)	Malaria: fruits; Insecticides: bark extract (other med uses in India, Madagascar, Australia)	1(212), 2(62),10(92)
BEGONIACEAE	<i>Begonia sanderiana</i> Irmsch.	E: Sonder's wild begonia; A: wildebegonis	Perennial herb	Hillslope seep	Cliffs, rock falls in forest, rocky outcrops in grass land	Soil stabilizer; water quality	8(408)	?	8(408), 10(?)
ASTERACEAE	<i>Berkheya decurrens</i> (Thunb.) Willd.	X: ignashane, ikhakakhaka	Perennial herb	Hillslope seep	Grassy hillsides	Soil stabilizer; flood retention	EC	Rash treatment: Roots,leaves;pounded, mixed with mud smeared on body	10(27), 31(286)
BRUNIACEAE	<i>Berzelia intermedia</i> (D.Dietr.) Schtdl.	A: Knopbos, knopbossie, knoppiesbos, knoppiesbossie, kolkol, kolkolbos	Shrub	Hillslope seep	Sandstone slopes	Soil stabilizer	WC, EC & NC	?	10(44), 34(330), 38(384)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
CYPERACEAE	<i>Bolboschoenus maritimus</i> (L.) Palla	A: snygras	Sedge	Channel (river plus banks)	Edge of pools and vleis	Bank stabilizer; water quality; flood retention	NAM,SWZ,FS,ST,ECP,WC P,European species ,naturalised	?	8(566), 10(56)
CYPERACEAE	<i>Bulbosyris hispidula</i> (Vahl.) R.W.Haines ssp. <i>pyriformis</i> (Lye) R.W.Haines	None	Sedge	Floodplain wetland	Grassland and wet sandy soils	Soil stabilizer	NAM,BOT,SWZ,FS,ST,NN P,NWP,GAU ,MPU,KZN?	?	8(568)?, 10(57)?
RUTACEAE	<i>Calodendrum capense</i> (L.f.) Thunb.	E: Cape-chestnut; A: Kaapse kastaiing; S,X,Z: umbhaba; X: umsitshana; Z: umemeze-omhlophe	Tree	Unchannelled valley bottom wetland	Forest	Soil stabilizer; water cycling; flood retention	SWZ,NNP,G AU,MPU,KZ N,ECP,WCP, 9(204)	?	3(204), 10(123),21(912) 31(200)
GENTIANACEAE	<i>Chironia palustris</i> Burch. ssp. <i>palustris</i> (ssp nie in 10)	E: Cerise stars; A: bitterwortel; S: khomo-ea-sephatla, lehlahahali, lephsetlane, mostia, thatjane	Perennial herb	Floodplain wetland	Damp, marshy grassland	Bank and soil stabilizer; water quality; flood retention; species diversity support	BOT,SWZ,L ES,NNP,NW P,GAU,MPU, KZN,ECP,W CP?	?	8(414)?, 10(80)?,31(226), 39(478)
CYPERACEAE	<i>Cladium mariscus</i> (L.) Pohl ssp. <i>jamaicense</i> (Crantz) Kük	E: Saw-grass	Sedge	Channel (river plus banks)	shallow permanent or semi-permanent water	Bank and soil stabilizer; water quality; water cycling; flood	NAM,BOT,N NP,NWP,GA U,MPU,KZN ,ECP,WCP	?	8(568), 10(57), 150, 25(87)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
COMMELINA-CEAE	<i>Commelina diffusa</i> Burm.f. ssp. <i>diffusa</i>	None	Perennial herb	Channel (river plus banks)	Along banks of rivers, lakes, pools, rarely grows in water; sandy soils	Soil stabilizer	[Almost pantropical, p75 (25)] NAM,BOT,S WZ,NNP,GA U,MPU,KZN ,ECP,WCP?	?	10(51)?, 25(75), 39(46)
COMMELINA-CEAE	<i>Commelina diffusa</i> Burm.f. ssp. <i>scadens</i> (Welw. ex C.B.Clarke) Oberm.	None	Perennial herb	Channel (river plus banks)	Permanent swamps, backwater, along rivers, grows in floating sudd vegetation	Bank stabilizer; water quality; flood retention	NAM,BOT,S WZ,NNP,GA U,MPU,KZN ,ECP,WCP?	?	10(51)?, 25(75)
COMMELINA-CEAE	<i>Commelina erecta</i> L.f.	E: wandering Jew	Perennial herb	Floodplain wetland	Damp places	Soil stabilizer	NAM,BOT,S WZ,NNP,N WP,MPU,KZN ,ECP	?	10(35), 31(38)
ASTERACEAE	<i>Cotula (Matricaria) nigellifolia</i> (DC.) K.Bremer & Humphries var. <i>nigellifolia</i>	E: Staggers weed; A: rivierals, stootsiektebos sie, waterkerwel ; Z,X?: ukudliwa ngumlambo	Annual herb	Channel (river plus banks)	Wet places, vleis or edges of dams	Soil stabilizer; flood retention	?	?	8(218)?, 10(30,35)?, 190, 31(272)?

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
ASTERACEAE	<i>Cotula nigellifolia</i> (DC.) K.Bremer & Humphries var. <i>tenuior</i> (DC.) P.P.J.Herman	E: stagers weed; A: tuingras,rivier als,stootsiekte bossie; x: ukudilwa ngumlambo, umsolo; Z: umhlonyanane, u dlabose	Annual herb	Floodplain wetland	Damp places	Soil stabilizer	KZN	?	8(218)?, 10(30)
ASTERACEAE	<i>Crassocephalum rubens</i> (Juss. Ex Jacq.) S.Moore	E: red hawkseed; Z; inkuphuyana encane	Perennial herb	?	?	Soil stabilizer	KZN	emetic,biliousness: pounded leaves, warm water infusion taken	1(328), 10(30)
ASTERACEAE	<i>Crassocephalum x picridifolium</i> (DC.) S.Moore	None	Perennial herb	Floodplain wetland	Damp places, or where water stood during rains but has dried out	Soil stabilizer	NAM,BOT,S WZ,NNP,N WP,GAU,M PU,,KZN, ECP	?	20, 10(30), 150, 25(64)
FABACEAE	<i>Crotalaria distans</i> Benth. ssp. <i>distans</i>	A: Vuurbossie; S: mookana, thotsana	Shrub	Floodplain wetland	Wooded and open grassland, sometimes in damp places	Soil stabilizer	NAM,BOT,L ES,NNP,NW P,GAU,MPU, KZN,FST, KZN,	?	30, 10(70)?,21(579), 39(443)
FABACEAE	<i>Crotalaria pallida</i> Aiton var. <i>pallida</i>	E: Broad-leaved rattle pod	Perennial herb	Floodplain wetland	Forest margins, woodland and disturbed places.	Soil stabilizer	NNP,MPU,K ZN	?	30, 8(264), 10(70), 34(502), 39(444)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
POACEAE	<i>Cynodon dactylon</i> (L.) Pers.	E: Couch grass	Grass	Channel (river plus banks)	Disturbed areas and damp places	Soil stabilizer; water quality; flood retention; species diversity support	NAM,BOT,S WZ,LES,NN P,NWP,GAU ,MPU,FST,K ZN,ECP,NC P,WCP?	?	20, 10(109), 39(147), 68(229)
BORAGINACEAE	<i>Cynoglossum lanceolatum</i> Forssk.	E: hound's tongue	Annual herb	Floodplain wetland	Forest margins, tall grasslands	Soil stabilizer	SWZ,LES,N NP,NWP,GA U,MPU,FST, KZN,ECP,W CP	?	10(42), 31(220)
CYPERACEAE	<i>Cyperus digitatus</i> Roxb. ssp. <i>auricomis</i> (Sieber ex Spreng.) Kük.	None	Sedge	Channel (river plus banks)	Near water in swamps or seasonally flooded areas, ditches, riverbanks	Bank and soil stabilizer; water quality; water cycling; flood retention; species diversity support	NAM,BOT,N NP,NWP,GA U,MPU,KZN	?	30,10(57), 25(90)
CYPERACEAE	<i>Cyperus distans</i> L.f.	E: Slender cyperus; A: skraal cyperus	Sedge	Channel (river plus banks)	Wet grassland, along streambanks and pool edges	Bank and soil stabilizer; water quality; water cycling; flood retention; species diversity support	BOT,SWZ,N NP,MPU,KZ N,ECP	?	10(57), 23(NA)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
CYPERACEAE	<i>Cyperus longus</i> L. var. <i>teniflorus</i> (Rottb.) Boeck.	E: Sweet cyperus; A: waterbiesie, dooiwortel	Sedge	Channel (river plus banks)	Riverbanks, sand banks, in seasonally flooded areas	Bank and soil stabilizer	NAM,BOT,N NP,NWP,GA U,MPU,FST, ECP,NCP,W CP	?	10(57), 25(92), 23(NA)
CYPERACEAE	<i>Cyperus marginatus</i> Thunb.	A: Bieisie, matjiesgoed	Sedge	Floodplain wetland	Temporarily wet areas	Soil stabilizer	NAM,SWZ,L ES,NWP,GA U,MPU,FST, KZN,ECP,N CP,WCP	?	10(57), 23(NA)
CYPERACEAE	<i>Cyperus sphaerospermus</i> Schrad.	A: Matjiesgoed; Other: omafinde, efinde	Sedge	Channel (river plus banks)	Very wet places, in water or growing in mats of floating vegetation?	Bank and soil stabilizer; water quality; water cycling; flood retention; species diversity support	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Bot, Nam & Swa	?	10(57), 25(89), 34(1028)
FABACEAE	<i>Derris trifoliata</i> Lour.	None	Climber	Channel (river plus banks)	Along rivers, mangrove swamps	Bank and soil stabilizer; water quality; flood retention; species diversity support	KZN	?	20, 70, 8(396), 10(71),21(593)
FABACEAE	<i>Desmodium incanum</i> DC.	E: Sweethearts; Z: isinama	Shrub	Floodplain wetland	disturbed grassland, forest	Soil stabilizer	MPU,KZN,E CP	?	50, 8(394), 10(71)
FABACEAE	<i>Desmodium repandum</i> (Vahl) DC.	E: Orange desmodium	Shrub	Channel (river plus banks)	forest, especially along streams	Soil stabilizer; flood retention	SWZ,NNP,N WP,GAU,M PU,KZN,EC P,WCP	?	20, 8(60), 10(71), 31(172)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
FABACEAE	<i>Desmodium salicifolium</i> (Poir.) DC. var. <i>salicifolium</i>	None	Shrub	Channel (river plus banks)	Riverbanks	Bank stabilization; flood retention	NAM,BOT,S WZ,MPU,KZ N	?	8(150)?, 10(71)?, 23(NA), 39(443)
SCROPHULARIACEAE	<i>Diclis reptans</i> Benth.	E: dwarf snapdragon, toadflax; S: koenana, pony e; Z: isinama	Perennial herb	Flat	Damp, shady places, open grassland, forest	Soil stabilizer	SWZ, LES,NNP,G AU,MPU,FS T,KZN,ECP, WCP	Treat distemper in dogs:?	8(190), 10(127), 31(260)
IRIDACEAE	<i>Dietes iridioides</i> (L.) Sweet ex Klatt	E: Wild iris; A: wilde iris; Z: indawo(-yehlathi), isishupe somfula	Perennial herb	Flat	Forest, clearing in bush	Soil stabilization	WC, EC, KZN, MP, LP & Swa	Dysentary: inner part of rhizome, infusion orally or as enema; Childbirth? , hypertension: rhizomes; First menstruation: roots	1(59), 10(87), 28(120), 31(84)
POACEAE	<i>Digitaria longiflora</i> (Retz.) Pers.	E: False couch grass	Grass	Valleyhead seep	Disturbed areas, mainly sandy soils in damp patches in shade	Soil stabilizer	NAM,SWZ, NNP,NWP, GAU,MPU,K ZN	?	10(109), 39(150), 68(244)
POACEAE	<i>Dinebra retroflexa</i> (Vahl) Panz. var. <i>condensata</i> S.M.Phillips	E: Cat's tail vlei grass	Grass	Flat	Disturbed wet clay soils	Soil stabilizer	EC, FS, KZN, LP, NW, Bot, Nam & Swa	?	10(109), 68(206)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
HYACINTHACEAE	<i>Dipcadi viride</i> (L.) Moench	E: Curly-curly, green bells, green hyacinth, common snakeroot; A: gifbolletjie, slymuitjie; S: lephotoana, molubeli; Z: ikhakhakha eliluhlaza	Geophyte	Flat	dry to stony grasslands?	Soil stabilization	NAM,BOT,S WZ,LES,NN P,NWP,GAU ,MPU,FST,K ZN,ECP,NC P,WCP	gonorrhoea: decoction, wind in babies: ?	1(41), 8(510), 10(83),21(697), 31(54)
ORCHIDACEAE	<i>Disa chrysostachya</i> Sw.	E: Red /yellow torch orchid; Z: uklamkleshe, umnduze wotshani obomvu	Geophyte	Valleyhead seep	Damp or marshy areas, marshy grasslands	Soil stabilizer; flood retention; species diversity support	SWZ,LES,N NP,MPU,FS T,KZN,ECP, WCP	?	8(48), 10(103), 31(120)
MELASTOMACEAE	<i>Dissotis princeps</i> (Kunth) Triana var. <i>princeps</i>	E: Purple wild tibouchina, royal dissotis; A: kalwerbassie; Sw: sichobochobo, umpongampo nga	Shrub	Floodplain wetland	Marshy areas	Soil stabilizer	BOT,SWA,N NP,KZN ?	Vague info	8(466), 10(96)?
DROSERACEAE	<i>Drosera indica</i> L.	E: Sundew; A: sondou	Perennial herb	Floodplain wetland	Grassland and vleis.	Soil stabilizer; insectivorous	NAM,NNP, MPU	?	10(59), 34(420), 39(401)
DROSERACEAE	<i>Drosera madagascariensis</i> DC.	E: Sundew; A: doublom, sondou; S: tholo-ea-metsi	Annual herb	Floodplain wetland	Marshes in warmer areas	Soil stabilizer; insectivorous	BOT,SWZ,N NP,NWP,GA U,MPU,FST, KZN,ECP,W CP	?	8(384), 10(59), 15(160), 25(123), 34(420),

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
									39(401)
POACEAE	<i>Echinochloa crus-galli</i> (L.) P.Beauv.	E: barnyard millet, cocksspur grass	Grass	Floodplain wetland	wetland, wet or marshy places	Soil stabilizer; water quality; flood retention; species diversity support	NAM,BOT,S WZ,LES,MP U,FST,KZN ECP,NCP,W CP	?	20, 10(109), 25(201)
POACEAE	<i>Echinochloa pyramidalis</i> (Lam.) Hitchc. & Chase	E: Kalahari water-grass, Limpopo/antelope grass	Grass	Channel (river plus banks)	wet places, in water pools,ditches, streams, rivers	Soil stabilizer; water quality; flood retention; species diversity support	NAM,BOT,S WZ,NNP,GA U,MPU,KZN ,ECP,WCP	?	, 10(109), 150, 25(202)
CYPERACEAE	<i>Eleocharis dulcis</i> (Burm.f.) Hensch	None	Sedge	Lakes/pools	Ponds, streams and backwaters	Bank and soil stabilizer; water quality; flood retention; species diversity support	KZN & Bot	?	10(57), 23(NA), 25(98)
POACEAE	<i>Elionurus muticus</i> (Spreng.) Kunth	E: Wie lemongrass; A: suurpol; Z: isiNoma, isi Tsube	Grass	Valleyhead seep	Grassland, montane and subalpine belts?	Soil stabilizer	NAM,BOT,S WZ,LES,NN P,NWP,GAU ,MPU,FST,K ZN,ECP,NC P		10(110), 28(112)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
GENTIANACEAE	<i>Enicostema axillare</i> (Lam.) A.Raynal ssp. <i>axillare</i>	None	Peren-nial herb	?	?	?	NAM,BOT,S WZ,NNP,M PU,KZN	?	10(80)
POACEAE	<i>Eragrostis cillanensis</i> (All.) Vignolo ex Janch.	A: stinkgras	Grass	?	?	?	NAM,BOT,S WZ,LES,NN P,NWP,GAU ,MPU,FST,K ZN,ECP,NC P,WCP	?	1(20), 10(110), 25(196)
POACEAE	<i>Eragrostis gangetica</i> (Roxb.) Steud.	?	Grass	Floodplain wetland	Wet places	Soil stabilizer; water quality; flood retention; species diversity support	NAM	?	10(110)
FABACEAE	<i>Eriosema parviflorum</i> E.Mey. ssp. <i>parviflorum</i>	A: Bootvaatjie	Shrub	Channel (river plus banks)	Riverbanks	Soil stabilizer	EC, FS, KZN, MP, LP, NW, GA, Les & Swa	?	10(56,21(6 98?))
ERIOSPERMACEAE	<i>Eriosema cooperi</i> Baker var. <i>cooperi</i>	E: white fluffy seed; A: kapokblomme tjie; S: khongoana-tsa-ngoana	Geo-phyte	Channel (river plus banks)	Rocky grassland	Soil stabilizer; insectivorous	SWZ,LES,N NP,NWP,GA U,MPU,KZN ,ECP?	?	8(90), 10(61), 23(NA)
ERIOSPERMACEAE	<i>Eriosema cooperi</i> Baker var. <i>natalense</i> (Baker) P.L.Perry	None	Peren-nial herb	?	?	Soil stabilizer	EC, KZN, MP, LP, NW, GA, Les & Swa	?	1(30), 10(61), 23(NA)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
CYPERACEAE	<i>Fuirena umbellata</i> Rottb.	None	Sedge	Channel (river plus banks)	Seasonally flooded places, wet or swampy localities, waterlogged marshes, lake edges	Bank and soil stabilizer; water quality; flood retention; species diversity support	BOT, NNP, KZN	?	10(57), 25(105), 23(NA)
GERANIACEAE	<i>Geranium pulchrum</i> N.E.Br.	None	Shrub	Channel (river plus banks)	Steambanks, vleis	Soil stabilizer; water cycling; flood retention	EC, FS, KZN & Les	?	28(158), 34(567)
ASTERACEAE	<i>Gerbera ambigua</i> (Cass.) Sch.Bip.	E: Pink and white gerbera; A: botterblom, griekwateebos sie; S: moarubetso, seboka; Z: ihlambihlosha ne, indhlebe yempiti, iqwa, ucabazane	Perennial herb	Floodplain wetland	Grassland, woodland	Soil stabilizer	SWZ, LES, NNP, NWP, GA, U, MPU, FST, KZN, ECP	Tapeworm, stomach ache; pounded leaf infusion; Coughs: root infusion sipped hot	1(335), 8(220), 10(32)
IRIDACEAE	<i>Gladiolus dalenii</i> Van Geel ssp. <i>dalenii</i>	E: Dragon's head lily, parrot lily, Natal lily, sword lily; A: swaardlelie; S: khahle-e-kholo; Sw: sidvwana; Z: isidwi esibomvu, undwendweni	Geophyte	Flat	Summer rainfall grasslands	Soil stabilizer	FS, KZN, MP, LP, NW, GA, Bot, Les, Nam & Swa	Treat fertility in women, colds, dysentery: root decoctions. Colds; inhaling of smoke of burning corms (21)	1(63), 8(44), 10(87), 120, 23(NA), 34(1087), 61(90&91)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
IRIDACEAE	<i>Gladiolus papilio</i> Hook.f.	E: butterfly gladiolus; Sw: sidvvana; Z: ibutha, igulusha	Geophyte	Floodplain wetland	Marshes, damp grassland	Soil stabilizer; flood retention; specie diversity support	SWZ,LES,N NP,GAU,MP U,FST,KZN, ECP	?	1(63), 8(112), 10(87)
AMARANTHACEAE	<i>Gomphrena celosoides</i> Mart.	E: Butchelor's button; A:kruiip-knopamarant, mierbossie; Z: intandangulub e, unyawo-lwengulube	Perennial herb	Flat	Disturbed areas	Soil stabilizer	NAM,BOT,S WZ,LES,NN P,NWP,GAU ,MPU,FST,K ZN,ECP,NC P	none	8(134), 10(11), 21(18)
ASTERACEAE	<i>Grangea maderaspatana</i> (L.) Poir.	None	Annual herb	?	?	?	KZN & Nam	?	10(32), 110
TILIACEAE	<i>Grewia occidentalis</i> L. var. <i>occidentalis</i>	? E: cross berry, A: kruisbessie; Z: iklolo	Tree	?	?	Soil stabilizer	SWZ,LES,N NP,NWP,GA U,MPU,FST, KZN,ECP,W CP, p106(5) ?	? var? Dress wounds: bark bruised and soak; Childbirth aid: root extract; Treat impotency, sterility: plant parts?	1(198)?, 20, 5(106)?, 10(134), 31(196)
ASTERACEAE	<i>Haplocarpha scarposa</i> Harv.	E: False gerbera; A: bietou, melktou; S: khutsana, lengoako, sesweu; X: isikhali, umkhanzi	Perennial herb	Floodplain wetland	Grassland	Soil stabilizer	WC, EC, KZN, FS, MP, LP, NW, GA, Les & Swa	Menstruation: crushed leaves	50_8(332), 10(32)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
ASTERACEAE	<i>Helichrysum nudifolium</i> (L.) Less. var. <i>nudifolium</i>	E: Hottentot's tea; A: Hottentotsetee S: letapiso; Sw: ludvutfane X,Z; icholocholo; Z: isidwaba-somkhovu	Perennial herb	Floodplain wetland	Grassland	Soil stabilizer	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Les & Swa	Coughs, colds, chest complains, internal sores, bruises: root decoction, infusion taken, ointment; Prolapsed rectum: water/ milk infusion?	1(319), 8(314)?, 10(33)?, 39(319)
BORAGINACEAE	<i>Heliotropium lineare</i> (A.DC.) Gürke	A: Hemelstertjie, hamelstertjie	Perennial herb	Channel (river plus banks)	Muddy pans and sometimes wooded stony habitats	Soil stabilizer; water quality; flood retention	NAM, BOT, N NP, NWP, FS T, NCP	?	60, 10(42), 23(NA), 34(317), 39(352)
BORAGINACEAE	<i>Heliotropium supinum</i> L.	None	Annual herb	Channel (river plus banks)	Dried-up water holes and pools	Soil stabilizer; flood retention	NAM, BOT, N NP, NCP, WC P	?	10(42), 23(NA), 34(317), 380, 39(353)
BORAGINACEAE	<i>Heliotropium zeylanicum</i> (Bu rm.f.) Lam.	None	Perennial herb	Channel (river plus banks)	Dry woodlands, savannas, open grounds, sandy riverbanks and edges of rivers and lakes	Bank stabilizer; flood retention	NAM, SWZ, NNP, KZN	?	10(42), 23(NA), 34(317), 39(353)
CYPERACEAE	<i>Helimithia membranacea</i> (Thunb.) R.Haines & K.Lye	A: Biesie	Sedge	Channel (river plus banks)	Coastal sands and bordering vleis	Bank and soil stabilizer; flood retention; species	WC	?	10?, 18(104)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
PONTEDERIACEAE	<i>Heteranthera callifolia</i> Rchb. Ex Kunth	?	Perennial herb	Aquatic	?	Bank and soil stabilizer; water quality; flood retention; species diversity support	NAM,BOT,N NP,NWP,GAU	?	10, 20, 30, 10(115)
ARALIACEAE	<i>Hydrocotyle verticillata</i> Thunb.	None	Perennial herb	Flat	Floodplains, marshes, ditches, peaty depressions	Soil stabilizer	NAM,BOT,N NP,GAU,MPU,KZN,NCP,WCP	?	10(17), 25(64), 81
ACANTHACEAE	<i>Hygrophila auriculata</i> (Schumacher) Heine	None	Annual herb	Channel (river plus banks)	On water's edge	Bank stabilization; water quality; water cycling; flood retention	NAM,SWZ,MPU,KZN	?	20, 8(488), 10(7)
HYPERICACEAE	<i>Hypericum revolutum</i> Vahl. ssp. <i>revolutum</i>	E: St John's wort, forest primrose; A: Johanneskruid, kerriebos, Sint-Johanneskruid ?	Shrub	Channel (river plus banks)	forest margins, rocky outcrops, grassland and along streams in KZN misbelt, EC	Soil stabilization; flood retention	SWZ,NNP,GAU,MPU,KZN,ECP,WCP ?	?	10(85)? 19(104), 34(583)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
FABACEAE	<i>Indigofera dimidiata</i> Vogel ex Walp.	E: trifoliolate Indigofera. S: musa-peloa-thaba	Perennial herb	Flat	Grassland	Soil stabilizer	EC, FS, KZN, MP, LP, NW, GA & Les	Heart problems & fevers:?	8(388), 10(73), 66(NA), 39(452)
CONVOLVULACEAE	<i>Ipomoea ficifolia</i> Lindl.	Z: ikhambi lesihlungu, umkokha wehlathi	Climber	Floodplain wetland	Coastal bush	Soil stabilizer	SWZ,KZN,E CP	Purgative, snake bite: leave infusion taken, indigestion:?	1(259), 10(52),21(308)
CONVOLVULACEAE	<i>Ipomoea mauritiana</i> Jacq.	E: Natal cotton plant; A: garingtou	Climber	Channel (river plus banks)	Riverine and swamp forest	Bank stabilizer; flood retention	KZN	?	8(420), 10(52), 23(NA), 34(376)
CONVOLVULACEAE	<i>Ipomoea oblongata</i> E.Mey. ex Choisy	Z: ubhoqo	Climber	Floodplain wetland	Grassland, woodland, bushland and disturbed areas	Soil stabilizer	NAM,BOT,S WZ,LES,NN P,NWP,GAU ,MPU,FST,K ZN,ECP,	Arthritis, gout, rheumatism: ground root decoctions taken; Pain in spine: enemas from root; Swollen joints, sores, abscesses: leaves as poultices	10(52), 23(NA), 21(308), 34(376)
CONVOLVULACEAE	<i>Ipomoea wightii</i> (Wall.) Choisy var. <i>wightii</i>	E: Small blue Ipomoea	Perennial herb	Floodplain wetland	low-lying moist places	Soil stabilizer	SWZ,NNP, MPU,KZN,E CP?	?	8(468)?, 10(53)?
CYPERACEAE	<i>Isolepis cernua</i> (Vahl) Roem. & Schult. var. <i>cernua</i>	S: Leshomokxoa ne	Sedge	Channel (river plus banks)	Seasonally wet salt marshes, river banks and damp grassland	Bank and soil stabilizer; flood retention	LES,NNP,N WP,GAU,M PU,FST,KZN ,ECP,NCP,W CP	?	80. 10(57)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
JUNCACEAE	<i>Juncus oxycarpus</i> E.Mey. ex. Kunth	None	Perennial herb	Channel (river plus banks)	Very wet swamps, along streams and river banks often in shallow water	Bank stabilization; flood retention	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Bot, Les, Nam & Swa	?	10, 10(80), 18(216), 23(NA), 25(154)
ACANTHACEAE	<i>Justicia betonica</i> L.	E: Paper plume, leafy-bract justica	Perennial herb	Channel (river plus banks)	Grows in grassveld, open bushveld or savanna, often in sandy or rocky soil, and often along watercourses	Soil stabilizer	NAM,BOT,S WZ,NNP,N WP,GAU,M PU,KZN,EC P	?	8(200), 10(80), 15(165), 23(NA), 47(11)
CYPERACEAE	<i>Kyllinga erecta</i> Schumach. var. <i>erecta</i>	E: Greater Kyllinga, white sedge; A: biesie, uintjie, wit Kyllinga, wit biesie	Sedge	Floodplain wetland	Open wet swampy grassland	Bank and soil stabilizer; flood retention	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Bot, Les, Nam & Swa	?	18(129), 23(NA)
	<i>Laggera decurrens</i> (Vahl) Hepper & J.R.I.Wood	E: Silky sage bush	Perennial herb	Floodplain wetland	Grasslands and savanna	Soil stabilizer	FS, KZN, MP, LP, NW, GA, NC, Bot & Nam	Used by Swati; Other spesie (<i>crispata</i>): Purgeermiddel: Roots; Asthma: Leaves; Fever: Leaves	10(81), 21(207), 23(NA), 39(324), 47(103)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
POACEAE	<i>Leersia hexandra</i> Sw.	E: Cut grass, rasp grass, rice grass, swamp cut-grass, water cut-grass, white grass, wild ricegrass; A: kweelgras, moerasgras, moerashaakblaar, waterkweek, wilderysgras; S: mohlakamane-a-manyanyane	Grass	Floodplain wetland	Shady places near water, permanently wet places	Soil stabilizer; water quality; flood retention; species diversity support	WC, EC, FS, KZN, MP, LP, NW, GA, Bot, Les, Nam & Swa	Massage oil	10(81), 15(193), 18(239), 21(463), 23(NA), 24(206), 79(NA)
CYPERACEAE	<i>Lipocarpus chinensis</i> (Osbeck) Kern	None	Sedge	Channel (river plus banks)	Aerated water of streams and wet areas adjacent to streams	Bank and soil stabilizer; flood retention	KZN, MP, LP, NW, Bot & Swa	?	10(82), 18(133), 23(NA)
VERBENACEAE	<i>Lippia javanica</i> (Burm.f.) Spreng	E: Lemon bush, fever tree, wild tea, fever tea; A: beukebos, maagbossie; N: umsuzwana; Sw: mussutane, mutswane; T: bokhukhwane; X: inzinziniba, umzinzinibe;	Shrub	Flat	Open woodland	Soil stabilizer	EC, FS, KZN, MP, LP, NW, GA, Bot & Swa	Coughs: Leaves & stem; Colds: Leaves & stem; Bronchial troubles: Leaves & stem; Measles: Leaves & stem; Lung inflammation: Leaves & stem; Gangrenous rectitis: Leaves & stem;	8(180), 10(82), 21(1051), 23(NA), 24(128&222), 340

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
		Z: umsuzwane							
LOBELIACEAE	<i>Lobelia anceps</i> L.f.	E: Swamp lobelia	Perennial herb	Floodplain wetland	Marshy grounds	Soil stabilizer	WC, EC, KZN & Swa	Blackwater fever: Leaves & stem; Urticaria & other diseases: Leaves & stem; Nasal haemorrhage: Leaves & stem; Malaria: Leaves & stem	10, 8(494), 90, 23(NA), 34(607)
LOBELIACEAE	<i>Lobelia flaccida</i> (C.Presl) A.DC. ssp. <i>flaccida</i>	E: Wild lobelia; SS: motlapa-tsoinjane; X: itshilizi, ubulawu; Z: isidala esiluhlaza	Annual herb	Channel (river plus banks)	Streambanks in open grassland	Bank and soil stabilizer	WC, EC, FS, KZN, MP, LP, GA, NC, Les & Swa	?	8(496), 10(83), 23(NA), 34(609), 49(336), 53(216)
ONAGRACEAE	<i>Ludwigia erecta</i> (L.) Hara	None	Annual herb	Channel (river plus banks)	Seasonally inundated areas along rivers and on pond margins	Soil stabilizer; water quality; flood retention; species diversity support	Bot	?	10(84), 23(NA), 25(191), 34(754)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
LYCOPODIACEAE E	<i>Lycopodiella cernua</i> (L.) Pic.Serm.	E: Nodding clubmoss, fairy Christmas tree; A: wolfsklou	Fern	Channel (river plus banks)	Continually moist streambanks and ditches	Bank stabilizer; flood retention	WC, EC, KZN, MP, LP, NW, GA & Swa	?	10(84), 21(1137), 22(11), 23(NA), 34(75), 43(62), 44(1)
LYTHRACEAE	<i>Lythrum salicaria</i> L.	E: Loosestrife, purple loosestrife	Perennial herb	Lakes/pools	Reedswamps, fens and marshes, and along margins of lakes	Soil stabilizer; water quality; flood retention; species diversity support	WC	?	10(84), 23(NA), 25(177), 34(616), 48(52)
CAPPARACEAE	<i>Maerua juncea</i> Pax ssp. <i>juncea</i>	E: Bush-cherry	Climber	?	?	Soil stabilizer	LP, Bot & Nam	?	8(142), 10(84), 23(NA), 34(349)
ASTERACEAE	<i>Melanthera scandens</i> (Schumach. & Thonn.) Roberty. ssp. <i>madagascariensis</i> (Baker) Wild	None	Annual herb	Channel (river plus banks)	Permanent water	Bank and soil stabilizer; water quality; flood retention; species diversity support	Bot & Nam	External wounds: Leaf & flower Stop bleeding: Leaf & flower Sore eyes: Leaf Coughs: Leaf Stomach disorders: Leaf	8(138), 10(85), 15(169), 21(250), 23(NA), 34(256)
MELLIANTHACEAE E	<i>Melanthus villosus</i> Bolus	E: Maroon honey flower; A: kruiddjie-roer-my-nie; Z: ibhonya	Shrub		Moist areas in forest margins		FS, KZN & Les	?	50, 8(536), 10(86), 34(NA), 34(631), 61(132&133)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
LAMIACEAE	<i>Mentha longifolia</i> (L.) Huds. ssp. <i>wissii</i> (Launert) Codd	E: Wild mint; A: balderjan, nallerja, balterja, kruisement, kruisetement, wildekruisement	Shrub	?	?	Bank and soil stabilizer; water quality; flood retention; species diversity support	WC, NC & Nam	Chest complaints: Infusion; Wounds: Infusion; Headaches: Infusion; Stomach pains: Infusion; Pregnancy: Infusion; Epilepsy: Roots; Insomnia: Infusion; Hysteria: Infusion; Cystitis: Infusion	10(87), 21(522), 23(NA), 34(590)
POACEAE	<i>Miscanthus capensis</i> (Nees) Andersson	A: Ruigtegras	Grass	Channel (river plus banks)	River banks and forest margins.	Soil stabilizer; water quality; flood retention; species diversity support	WC, EC, FS, KZN, NC, Les & Swa	?	10(87), 120, 18(242), 23(NA), 34(1177)
LOBELIACEAE	<i>Monopsis scabra</i> (Thunb.) Urb.	E: Wild violet.	Perennial herb	?	?	Soil stabilizer	EC & KZN	?	10(87), 23(NA), 34(611)
LOBELIACEAE	<i>Monopsis stellarioides</i> (C.Presl) Urb. ssp. <i>stellarioides</i>	E: Sticky leaved monopsis; Z: inamathela	Perennial herb	Valleyhead seep	Swampy grassland.	Soil stabilizer; flood retention	EC, KZN, MP, LP & Swa	?	8(496), 23(NA), 34(611), 49(332)
BORAGINACEAE	<i>Myosotis sylvatica</i> Hoffm.	E: Wood forget-me-not	Perennial herb	Channel (river plus banks)	Along streams and in vleis	Bank stabilizer; flood retention	WC, EC, FS, KZN, MP, Les & Swa	?	10, 90, 10(89), 23(NA), 34(320), 35(NA), 61(162&163)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
LYTHRACEAE	<i>Nesaea heptamera</i> Hiern	None	Perennial herb	Floodplain wetland	Moist, saline grassland areas	Soil stabilizer	MP, LP & Swa	?	10(90), 23(NA), 34(617), 39(518)
LYTHRACEAE	<i>Nesaea rigidula</i> (Sond.) Koehne	None	Perennial herb	Channel (river plus banks)	Moist open spaces on margins of vleis and pans	Soil stabilizer; flood retention; species diversity support	LP, NW, GA, Bot & Nam	?	10(90), 23(NA), 34(617), 39(518)
LYTHRACEAE	<i>Nesaea sagittifolia</i> (Sond.) Koehne var. <i>ericiformis</i> Koehne forma <i>ericiformis</i>	None	Shrub	Valleyhead seep	Well-drained grassland	Soil stabilizer	KZN	Blackwater fever; ; Haematurias:	8(410), 10(90), 21(732), 23(NA), 34(617), 39(518)
LYTHRACEAE	<i>Nesaea sagittifolia</i> (Sond.) Koehne var. <i>ericiformis</i> Koehne forma <i>swaziensis</i> Immelman	None	Shrub	Valleyhead seep	Vleis and damp places in open grassland	Soil stabilizer; flood retention; species diversity support	MP & Swa	?	8(410), 10(91), 23(NA), 34(617)
LYTHRACEAE	<i>Nesaea sagittifolia</i> (Sond.) Koehne var. <i>sagittifolia</i>	None	Shrub	Valleyhead seep	Damp open grassland	Soil stabilizer	EC, FS, KZN, MP, LP, NW, GA & Swa	?	10(91), 23(NA), 34(617)
ASTERACEAE	<i>Nidorella foetida</i> (L.) DC.	None	Shrub	Floodplain wetland	Damp sites, often seeps and marshes	Soil stabilizer; flood retention	WC & EC	?	10(91), 23(NA), 34(261), 54(31)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
BUDDLEJACEAE	<i>Nuxia floribunda</i> Benth.	E: Wild elder, wild peach, forest Nuxia, forest elder; A: vlier, vlierwortel, wildevlier, bosvlier, vlierboom, wildevlierboom; S: mothabare; X: iNgqota, isiKhali; Z: umHlambandlazi, iThambo, umKhobeza, umGqwaggu, umSumuwem buzi.	Tree	Channel (river plus banks)	Coastal and montane forests and ravines, growing on river banks and in seepage areas	Bank and soil stabilizer; water quality; water cycling; flood retention; species diversity support	WC, EC, KZN, MP, LP & Swa	?	30, 10(92), 21(728), 23(NA), 34(333), 60(157)
RUBIACEAE	<i>Oldenlandia herbacea</i> (L.) Roxb. var. <i>herbacea</i>	E: False spurry; S: seobi	Annual herb	Valleyhead seep	Woodland, roadsides, rocky areas and marshy grassland	Bank and soil stabilizer; water quality; flood retention; species diversity support	EC, FS, KZN, MP, LP, NW, GA, Bot, Les, Nam & Swa	?	8(202), 10(93), 23(NA), 34(834), 39(585)
RUBIACEAE	<i>Oldenlandia lancifolia</i> (Schumach.) DC. var. <i>scabridula</i> Bremek.	None	Perennial herb	Channel (river plus banks)	Wet conditions: riverbanks and spray zones at waterfalls	Bank and soil stabilizer; water quality; flood retention; species diversity support	MP, LP & Bot	?	10(93), 23(NA), 34(835), 39(585)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
ASTERACEAE	<i>Oncosiphon glabratum</i> (Thunb.) Källersjö	A: Stinkkruid	Annual herb	?	?	Soil stabilizer	WC	Fits: Plant; Cholice: Plant; Sore Throat: Plant; Inflammation: Plant; Narcotic: Tea made from dried flowers; Wounds: ; Tooth ache; etc.	10(93), 21(247), 23(NA), 34(263), 46(33)
ASTERACEAE	<i>Osmitopsis osmitoides</i> (Less.) K.Bremer	A: Basterbelskruid	Shrub	Hillslope seep	Moist slopes and forest margins	Soil stabilizer; flood retention	WC & EC	?	10(94), 23(NA), 34(264)
OSMUNDACEAE	<i>Osmunda regalis</i> L.	E: Flowering fern, green fern, royal fern	Geophyte	Hillslope seep	Rock crevices in seasonally moist grassland, but mostly along perennial streams and moist ditches; exposed or partially shaded	Soil stabilization	WC, EC, FS, KZN, MP, LP, NW, GA & Swa		10(94), 23(NA), 34(78)
HYDROCHARITACEAE	<i>Ottelia uivifolia</i> (Planch.) Walp.	None	Aquatic	Lakes/pools	Still or slow flowing water	Bank and soil stabilizer; water quality; flood retention; species diversity support	MP, LP, GA, Bot, Nam & Swa	?	10(94), 15(147), 23(NA), 25(147), 34(1071)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
POACEAE	<i>Panicum repens</i> L.	E: Couch panic grass, torpedo grass; A: bamboeskwiek, grootbousaadgras, kruipgras, kweekbuffelsgras, varkgras	Grass	Flat	Wet sandy soils.	Soil stabilizer	WC, EC, KZN, MP, LP, NW, GA, Bot, Les, Nam & Swa	?	10(94), 23(NA), 25(213), 34(1179)
POACEAE	<i>Paspalum dilatatum</i> Poir.	E: Millet grass, common paspallum, bastard millet grass, dallis grass, golden crown grass, hairy-flowered paspalum, large water grass, large water seed, water grass; A: bankrotkweek, breësaadgras, breësaadvleigras, paspalatum gras, watergras, breëvleigras, paspalum; Other: mupunganini	Grass	Flat	Disturbed damp places	Soil stabilizer; flood retention	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Les & Swa	?	10(95), 21(483 & 1094), 23(N A), 25(216), 34(1179), 50(96), 54(80 & 239)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
POACEAE	<i>Paspalum vaginatum</i> Sw.	E: Seashore paspalum, swamp coach; A: brakpaspalum	Grass	Floodplain wetland	Vlei margins	Soil stabilizer; flood retention	WC, EC, FS, KZN, GA, Les & Swa	?	8(10(95), 23(NA), 25(217), 34(1180))
GERANIACEAE	<i>Pelargonium alchemilloides</i> (L.) L'Hér	E: Pink trailing pelargonium; A: wildemalva; SS: bolila-ba-litsoene; X: inkubele; Z: inkubele, ishwaqa, umangqengge	Perennial herb	Flat	Grassland and disturbed areas	Soil stabilizer	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Les & Swa	Fever: leaves; Diarrhoea: leaves; Wounds: leaves	8(154), 10(96), 21(453), 23(NA), 34(569), 49(206), 53(167)
GERANIACEAE	<i>Pelargonium bowkeri</i> Harv.	E: Carrot-leaved pelargonium, cat's tail pelargonium, frilled pelargonium; SS: khoara	Perennial herb	Hillslope seep	Rocky grassland	Soil stabilizer	EC, FS, KZN & Les	Flushes; Colic; Diarrhoea:	8(154), 10(96), 21(453), 23(NA), 34(570), 53(168)
GERANIACEAE	<i>Pelargonium papilionaceum</i> (L.) L'Hér	A: Rambossie	Shrub	Channel (river plus banks)	Forest margins near streams	Soil stabilizer	WC	Vague info on uses	3(10(96), 23(NA), 34(574))
GERANIACEAE	<i>Pelargonium tomentosum</i> Jacq.	None	Shrub	Channel (river plus banks)	Forest margins in mountains	Soil stabilization	WC	?	2(80, 10(97), 23(NA), 24(224), 34(340))
GERANIACEAE	<i>Pelargonium vitifolium</i> (L.) L'Hér	None	Shrub	Hillslope seep	Shady ravines on lower slopes	Soil stabilization	WC	?	8(10(97), 23(NA), 34(577))

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
RUBIACEAE	<i>Pentas micrantha</i> Baker ssp. <i>wyliei</i> (N.E.Br.) Verdc	E: White wild pentas	Perennial herb	Hillslope seep	Forest margins, shady, wet places	Soil stabilizer	KZN & Swa	?	30, 8(202), 10(100), 23(NA), 34(837)
RUBIACEAE	<i>Pentodon pentandrus</i> (Schumach. & Thonn.) Vatke var. <i>minor</i> Bremek.	None	Annual herb	Flat	Damp places	Soil stabilizer	KZN, MP, LP & Swa	?	30, 50, 10(100), 23(NA), 34(837)
RUBIACEAE	<i>Pentodon pentandrus</i> (Schumach. & Thonn.) Vatke var. <i>pentandrus</i>	None	Annual herb	Flat	Damp places	Soil stabilizer	LP, Bot & Nam	?	10, 20, 30, 50, 90, 10(100), 23(NA), 34(837)
APIACEAE	<i>Peucedanum caffrum</i> (Meisn.) E.Phillips	E: Wild parsley, A: hondewortel, pietersielietabak, tamboekietwaak; S: tloro-engoale; Z: isingcina, nhlashane	Perennial herb	?	Coastal scrub in sand and in grassland on rocky slopes	Bank stabilization	EC, FS, KZN, MP, LP and Les	diarrhoea:	10, 8(296), 10(101), 23(NA), 34(130), 53(187)
POACEAE	<i>Phragmites mauritianus</i> Kunth	E: Lowveld reed; A: dekriet, fluitjesriet, laeveldfluitjesriet; Other: olumbungu, eembungu,	Grass	Channel (river plus banks)	Swamps and shallow water, at the edge of lakes, pools and along streams	Bank and soil stabilizer; water quality; water cycling; flood retention; species	EC, KZN, MP, LP, NW, GA, Bot, Nam & Swa	?	10(102), 18(247), 23(NA), 34(1183)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
		rihlanga				diversity support			
SCROPHULARIACEAE	<i>Phygelius capensis</i> E.Mey. ex Benth.	E: Western river bells	Shrub	Channel (river plus banks)	Streambanks and forest margins	Bank and soil stabilizer; flood retention; species diversity support	EC, FS, KZN & Les	?	10(102), 23(NA), 34(891), 49(456), 53(199), 61(178)
POACEAE	<i>Poa annua</i> L.	E: Annual bluegrass, annual meadow grass, dwarf meadow grass, low spear grass, six week grass, winter grass; A: eenjarige blougras, straatgras, wintergras; S: joang-ba-lintja	Grass	Flat	Disturbed areas, damp and shady places	Soil stabilizer	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Les, Nam & Swa	?	10(105), 21(464), 23(NA), 34(1183), 53(111)
PONTEDERIACEAE	<i>Pontederia cordata</i> L. var. <i>ovalis</i> Solms	E: Pickerel weed; A: jongsnoekkruid	Perennial herb	Aquatic	Shallow water, sometimes in brackish conditions	Bank and soil stabilizer; water quality; flood retention; species diversity support	KZN, MP & GA	?	10(107), 23(NA), 25(234), 34(1194), 48(25)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
POTAMOGETONACEAE	<i>Potamogeton thunbergii</i> Cham. & Schlttd.	E: Pondweed, broad-leaved pondweed; A: fonteingras, breëblaar fonteingras, drywende fonteinkruid, drywende fonteinkruidgras; S: ntlo-eahlapi, sesei; X: ikhubalo lomkhondo wemphala	Perennial herb	Aquatic	Deep water or emergent and on mudbanks	Bank and soil stabilizer; water quality; flood retention; species diversity support	WC, EC, FS, KZN, MP, LP, NW, GA, Bot, Les, Nam & Swa	?	70, 8(502), 10(108), 15(148), 23(NA), 25(238), 34(1195), 53(104)
FABACEAE	<i>Psoralea aphylla</i> L.	E: Naked fountain bush, leafless fountain bush; A: kaal-fonteinbos, bloukeur, bloukeurboom, fonteinbos, fonteinhout, fonteinertjiebos	Shrub	Channel (river plus banks)	Streambanks of mountain and low-land fynbos	Bank stabilization; flood retention	WC	?	10(108), 23(NA), 34(542), 420, 49(284), 56(150)
FABACEAE	<i>Psoralea aphylla</i> L. x <i>P. pinnata</i> L.	None	Shrub	Channel (river plus banks)	Along streams	Bank stabilization; flood retention	WC	?	10(108), 23(NA), 34(542), 420
FABACEAE	<i>Psoralea oligophylla</i> Eckl. & Zeyh.	None	Shrub	Channel (river plus banks)	Streamsides in mountain fynbos	Bank and soil stabilizer; flood retention	WC, EC & NC	?	10(108), 23(NA), 34(542)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
LAMIACEAE	<i>Pycnostachys urticifolia</i> Hook.	E: Large hedgehog-flower, dark blue pycnostachys, blue boys, hedgehog sage; A: ystervarksalie; Z: amadana, unkungwini	Perennial herb	Floodplain wetland	Moist swampy grassy places	Soil stabilizer; water quality; flood retention; species diversity support	MP, LP, GA & Swa	?	8(472), 10(109), 23(NA), 34(594), 49(426)
FABACEAE	<i>Rhynchosia caribaea</i> (Jacq.) DC.	S: monya-mali, moranana-ooliphepa, thara	Climber	Channel (river plus banks)	Coastal forests, near streams	Bank and soil stabilizer; flood retention	WC, EC, FS, KZN, MP, LP, NW, GA, Bot, Les, Nam & Swa	?	8(270), 10(110), 15(173), 23(NA), 34(546)
CYPERACEAE	<i>Rhynchospora corymbosa</i> (L.) Britton var. <i>corymbosa</i>	E: Saw grass	Sedge	Channel (river plus banks)	Swamps, lakes, pools, streams and rivers	Bank and soil stabilizer; water quality; flood retention; species diversity support	Bot	?	8(568), 10(110), 23(NA), 25(109), 34(1040)
BRASSICACEAE	<i>Rorippa humifusa</i> (Guill. & Perr.) Hiern	None	Annual herb	Channel (river plus banks)	Damp sand on river banks	Bank stabilizer; flood retention	Nam	?	10(110), 23(NA), 34(328)
POACEAE	<i>Rottboellia cochinchinensis</i> (Lour.) Clayton	E: Guineafowl grass, kokoma grass, shamva grass; Other: vave	Grass	?	?	Soil stabilizer	KZN, MP, LP, Bot, Nam & Swa	?	10(110), 23(NA), 34(1185)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
POACEAE	<i>Sacciolepis curvata</i> (L.) Chase	A: Kappiegras	Grass	?	?	Soil stabilizer	KZN, MP, LP & Mos	?	10(110), 23(NA), 34(1185)
CHENOPODIA-CEAE	<i>Salsola kali</i> L.	E: Tumbleweed, classwort, prickly glasswort, prickly saltwort, rolypoly, rush-and-tumbleweed, Russian thistle, saltwort, Russian tumbleweed, khakibush, roly-poly; A: rolbos, kakiebos, kakedissel, Russiese rolbossie, silwerbossie, tolbos, waabos, rolbossie, tolbossie, waabossie, khakibos, trekbos	Annual herb	Floodplain wetland?	Dry stony places	Soil stabilizer	WC, EC, FS, LP, NW, GA, NC & Nam	Cough suppressant: green leaf tincture; Colds, stomach ache: infusion?; Eczema: plant decoctions topically; Remove sand worms; poultices; Colic, insomnia in children: leaves, twigs in enemas;	10(110), 21(191 & 1145), 23(NA), 34(367), 39(375), 48(34), 50(102), 51(104)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
CHENOPODIACEAE	<i>Sarcocornia natalensis</i> (Bunge ex Ung.-Sternb.) A.J.Scott var. <i>natalensis</i>	None	Shrub	?	?	Soil stabilizer	WC, EC & KZN	Madness, convulsion, uterine, chesspains, fevers in infants: leaves in medicine; Many uses in rest of Africa	10(110), 23(NA), 34(368), 51(101)
ORCHIDACEAE	<i>Satyrium bracteatum</i> (L.f.) Thunb.	None	Geophyte	Valleyhead seep	Dry flats to wet marshy sites, peat ledges and fissures amongst rocks	Soil stabilizer; flood retention; species diversity support	WC, EC, KZN, MP, LP & Les	?	10(111), 13(156), 23(NA), 34(1148)
AMARYLLIDACEAE	<i>Scadoxus multiflorus</i> (Martyn) Raf. ssp. <i>katharinae</i> (Baker) Friis & Nordal	E: Fire ball lily, common fireball, blood flower; Z: isiphompo, isiphungo	Geophyte	Flat	Shady bushveld and grassland	Soil stabilizer	EC, KZN & Swa	Abdominal & stomach disorders: roots Mens infertility: Bulb	20(13), 49(58), 66(NA), 81(NA)
POACEAE	<i>Schizachyrium brevifolium</i> (Sw.) Nees ex Büse	None	Grass	Flat	Damp places	Soil stabilizer	LP & GA	?	10(111), 23(NA), 34(1185), 39(185)
CYPERACEAE	<i>Schoenoplectus articulatus</i> (L.) Palla	None	Sedge	Channel (river plus banks)	Very wet places	Bank and soil stabilizer; water quality; flood	KZN, MP, Bot & Nam	?	10(111), 18(164), 23(NA), 34(1040)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
CYPERACEAE	<i>Schoenoplectus paludicola</i> (Kunth) J-Raynal	A: Steekbiesie, steekrietjie	Sedge	Floodplain wetland	Very wet marshes	Bank and soil stabilizer; water quality; flood retention; species diversity support	WC, EC, KZN & MP	?	10(111), 18(167), 23(NA), 34(1041), 53(115)
CYPERACEAE	<i>Scleria foliosa</i> Hochst ex A.Rich.	None	Sedge	Lakes/pools	Seasonally shallow pans	Bank and soil stabilizer; water quality; flood retention; species diversity support	MP, LP, GA, Bot, Nam & Swa	?	10(111), 18(186), 23(NA), 34(1044)
GENTIANACEAE	<i>Sebaea grandis</i> (E.Mey.) Steud.	E: Large flowered sebaea, primrose gentian; S: liphalana, mipa, petle, phalana; Z: umalpha omnicate	Annual herb	Floodplain wetland	Grassland and marshy areas	Soil stabilizer; flood retention	EC, FS, KZN, MP, LP, NW, GA, Bot, Les, Nam & Swa	?	8(164&298), 10(111), 23(NA), 34(564), 49(254)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
ASTERACEAE	<i>Senecio gregatus</i> Hilliard	E: Two-day cure; Z: uNsukumbili, ichazampukan e, insukumbili, umaphozisa, umkhuthelo	Perennial herb	Flat	Grassland and open woodland	Soil stabilizer, flood retention; species diversity support	EC, FS, KZN, MP, LP, GA & Les	Infected sores: Leaves; Burns; Powdered roots; Internal infections: Tea brewed from leaves; Blood purifier: Leaves	8(328), 10(111), 21(287 & 289), 23(NA), 34(286), 53(227), 66(NA)
ASTERACEAE	<i>Senecio halimifolius</i> L.	A: Tabakboom, tabakbos	Shrub	Flat	Coastal sands	Soil stabilization	WC & EC	Wounds: Leaves	10(111), 21(286), 23(NA), 34(286), 46(37), 62(212)
FABACEAE	<i>Senna bicapsularis</i> (L.) Roxb.	E: Rambling cassia	Shrub	Channel (river plus banks)	Savanna, coastal bush and river banks	Bank and soil stabilizer; flood retention	KZN, MP, LP & Swa	?	10(112), 23(NA), 34(548), 48(79 & 206)
FABACEAE	<i>Senna didymobotrya</i> (Fresen.) H.S.Irwin & Barneby	E: Peanut butter cassia; A: grondboontjie botterkassia	Tree	Floodplain wetland	Grassland, coastal bush, bushveld, roadsides, riverbanks, and disturbed places	Bank and soil stabilizer; water quality; water cycling; flood retention; species diversity support	WC, EC, KZN, MP, LP, GA & Swa	?	10(112), 23(NA), 4(549), 37(426), 48(208)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
FABACEAE	<i>Senna hirsuta</i> (L.) H.S.Irwin & Barneby	None	Shrub	Flat	Savanna, coastal bush, disturbed grassland, forest margins, roadsides and riverbanks	Soil stabilizer	KZN	?	10(112), 23(NA), 34(549), 48(209)
FABACEAE	<i>Senna occidentalis</i> (L.) Link	E: Stinking weed, wild coffee	Shrub	Channel (river plus banks)	Savanna, grassland, riverbanks, coastal sandflats, roadsides, ois lands, waste land	Soil stabilizer; flood retention	KZN, MP, LP, NW, GA, Bot, Nam & Swa	?	10(112), 23(NA), 34(549), 48(211)
FABACEAE	<i>Senna petersiana</i> (Bolle) RoLock.	E: Moneky pod, dwarf cassia, eared cassia, monkey senna; A: apiespeul; S: bohlöko; Z: umnembenem be, uhwabile Other: munembenem be	Shrub	Floodplain wetland	Sandy soils and alluvium along rivers	Soil stabilizer; flood retention	KZN, MP, LP & Swa	?	10(112), 23(NA), 34(549)
FABACEAE	<i>Senna septentrionalis</i> (Viv.) H.S.Irwin & Barneby	None	Shrub	Channel (river plus banks)	Forest margins, savanna, riverbanks, roadsides, plantations, waste ground	Soil stabilizer; flood retention	EC, KZN, MP, LP, GA & Swa	?	10(112), 23(NA), 34(549), 48(213)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
FABACEAE	<i>Sesbania bispinosa</i> (Jacq.) W.Wright var. <i>bispinosa</i>	E: Spiny sesbania; A: stekel-sesbania; Other: mositanokana	Shrub	Floodplain wetland	Moist conditions	Soil stabilizer; flood retention	KZN, MP, LP, NW, GA, Bot, Nam & Swa	?	10(112), 21(646), 23(NA), 25(135), 34(549), 47(93)
FABACEAE	<i>Sesbania pachycarpa</i> DC. ssp. <i>dinterana</i> J.B.Gillett	Other: Ombudje	Annual herb	?	?	Soil stabilizer; flood retention	Nam	?	10(112), 23(NA), 34(550)
AIZOACEAE	<i>Sesuvium sesuvioides</i> (Fenzl) Verdc. var. <i>sesuvioides</i>	None	Annual herb	Channel (river plus banks)	Grassland, edge of salt pan and margins of dams	Bank stabilizer; flood retention	LP, NW, GA, NC & Nam	?	10(112), 23(NA), 34(109), 39(234)
POACEAE	<i>Setaria megaphylla</i> (Hoctuehdst.) T.Durand & Schinz	E: Broad-leaved setaria, buffalo grass, fine sword grass, foret buffalo grass, macopo grass, ribbon bristle grass, ribbon grass, sclitz grass, solitz grass, bush buffalo grass; A: buffelsgras, breë-blaar borselgras, breëblaarsetaria, riffelblaarsetaria,	Grass	?	?	Soil stabilizer	WC, EC, KZN, MP, LP, NW, GA & Swa	?	10(112), 23(NA), 34(1186)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
POACEAE	<i>Setaria verticillata</i> (L.) P.Beauv.	E: Bristle foxtail, burr bristle grass, cat's tail, lovegrass, sticky bristle grass; A: katstert, klawergras, kleefgras, klitsgras, klitsborselgras, klitskatstert, klitssetaria, siergras, steekgras, katstergras, klossiegras; Other: bogoma	Grass	Flat	Shady, disturbed areas	Soil stabilizer	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Bot, Les, Nam & Swa	Used as salt	10(114), 15(201), 21(485), 23(NA), 24(12), 34(1187), 50(104), 54(294)
ASTERACEAE	<i>Sonchus maritimus</i> L.	None	Perennial herb	Channel (river plus banks)	Streamsides	Bank stabilizer; flood	WC, KZN, LP, NW & GA	?	80, 10(114), 23(NA),

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
POACEAE	<i>Sorghum bicolor</i> (L.) Moench ssp. <i>arundinaceum</i> (Desv. De Wet & Harlan	E: Millet; A: Amaquaskoorn, graansorghum, termataanse koring, rooikafferkorring, witkafferkorring	Grass	?	?	Soil stabilizer	FS, KZN, MP, LP, NW, GA, NC, Bot, Nam & Swa	?	34(294) 10(114), 110, 19(30), 21(464 & 488), 23(NA), 24(148&99), 34(1187), 54(265 & 269)
POACEAE	<i>Sorghum halepense</i> (L.) Pers.	E: Millet; A: Amaquaskoorn, graansorghum, termataanse koring, rooikafferkorring, witkafferkorring	Grass	Channel (river plus banks)	Agricultural lands, disturbed sites, roadsides, grassland, riverbanks and riverbeds	Soil stabilizer	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Nam & Swa	?	10(115), 19(30), 21(464 & 488), 23(NA), 34(1187), 48(18), 54(265)
RUBIACEAE	<i>Spermacoce senensis</i> (Klotzsch) Hiern	None	Annual herb	?	?	Soil stabilizer	KZN, MP, LP, NW, GA, Bot, Nam & Swa	?	10(115), 23(NA), 34(840)
POACEAE	<i>Sporobolus africanus</i> (Poir.) Robyns & Tournay	None	Grass	Flat	Disturbed soils	Soil stabilizer	WC, EC, FS, KZN, MP, LP, NW, GA, Les, Nam & Swa	Wounds: ; Snake-bite:	10(116), 21(464 & 488), 23(NA), 34(1188)
POACEAE	<i>Sporobolus festivus</i> Hochst. ex A.Rich.	None	Grass	?	?	Soil stabilizer	FS, KZN, MP, LP, NW, GA, Bot & Nam	?	10(117), 23(NA), 34(1188)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
POACEAE	<i>Sporobolus pyramidalis</i> P.Beauv.	E: Cat's tail dropseed, cat's tail grass, narrow-plumed dropseed; A: katstertynsaa dgras, smalpluimfyns aadgras, taaipol, vieigras; Other: mixikijane	Grass	?	?	Soil stabilizer	EC, KZN, MP, LP, NW, GA, Bot, Nam & Swa	?	20, 10(117), 23(NA), 34(1189)
LAMIACEAE	<i>Stachys lyssooides</i> Burch. ex Benth.	None	Perennial herb	Channel (river plus banks)	Depressions and riverbanks in clay soils	Soil stabilizer; water quality; flood retention; species diversity support	EC, FS, KZN, MP, LP, NW, GA, NC & Les	?	10, 80, 10(117), 23(NA), 34(598), 39(503)
LAMIACEAE	<i>Stachys spathulata</i> Burch. ex Benth.	None	Perennial herb	Channel (river plus banks)	Depressions, riverbanks and in water courses in heavy soils	Soil stabilizer; water quality; flood retention	FS, KZN, LP, NW, GA, NC, Bot & Nam	?	30, 70, 10(118), 23(NA), 34(598), 39(504)
POACEAE	<i>Stenotaphrum dimidiatum</i> (L.) Brongn.	None	Grass	?	?	Soil stabilizer	EC & KZN	?	30, 10(118), 23(NA), 34(1189)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
POACEAE	<i>Stenotaphrum secundatum</i> (Walter) Kuntze	E: Buffalo grass, Cape kweek, Cape quick grass, carpet grass, coarse couch grass, coarse quick grass, coastal buffalo grass, coast kweek, couch grass, grove kweek, mission grass, quick grass, ramsamy grass, seaside quick, St. Augustine grass, buffalo quick grass, seaside quick grass, buffalograss, coarse couch, coarse grass, coarse quick; A: Augustine-gras, buffelgras, buffelkweek, growwekkweek, kweek, lidjieskweek, olifantskweek, rivierkweek,	Grass	Floodplain wetland	Sandy coastal slopes and flats	Bank and soil stabilizer; water quality; flood retention; species diversity support; invader	WC, EC, KZN, Nam & Swa	Diuretic; Root; Urinary gravel; Tincture; Stomach pains: Tincture; Gall stones: Tincture	10(118), 21(488), 23(NA), 24(9), 34(1189), 50(105), 56(42)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
		strandkweek, kweekgras, strandbuffelsk week, strandbuffelsk week, beeskweek; S: marotlo-a-mafubelu; Z: umtombo							
CHENOPODIACEAE	<i>Suaeda fruticosa</i> (L.) Forssk.	A: Inkbos	Shrub	Floodplain wetland	Dry slopes and coastal marshes and estuaries	Bank and soil stabilizer; water quality; flood retention; species diversity	WC, EC, FS, LP, NC, Bot & Nam	Eye ailments: Leaves; Wounds: Leaves; Emetic: Poultry	10(118), 21(192), 23(NA), 34(368), 50(105)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
FABACEAE	<i>Tephrosia grandiflora</i> (Aiton) Pers.	E: Pink bush pea, large flowered Tephrosia; A: rooiertjie, rooi-ertjie; Z: ihlozane, iqwnse, udabane	Annual herb	Flat	Woodland and roadsides	Soil stabilizer; flood retention	WC, EC, KZN, MP, LP, GA & Swa	Parasites: Roots	8(392), 10(121), 20(646), 21(654), 23(NA), 34(552), 49(280)
FABACEAE	<i>Tephrosia uniflora</i> Pers. var. <i>uniflora</i>	None	Shrub	?	?	Soil stabilizer	Nam	Syphilis: boiled leaves	10(121), 23(NA), 34(554), 81(845)
THELYPTERIDACEAE	<i>Thelypteris confluens</i> (Thunb.) C.V.Morton	E: Scaly lady fern, bog fern.	Fern	Floodplain wetland	Marshy areas and swampy stream-banks	Bank and soil stabilizer; water quality; flood retention; species diversity support	WC, EC, KZN, MP, LP, NW, GA, Bot, Nam & Swa	?	10(122), 22(211), 23(NA), 34(85)
	<i>Torenia thourarii</i> (Cham. & Schtdl.) Kuntze	None	Annual herb	Aquatic	Water, marshes, swamps, around pools and along rivers, and sometimes floating	Bank and soil stabilizer; water quality; flood retention; species diversity support	EC, KZN, MP, LP, NW, GA & Swa	?	10(122), 23(NA), 25(255), 34(909)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
AIZOACEAE	<i>Trianthema salsoides</i> Fenzl ex Oliv. var. <i>stenophylla</i> Adamson	None	Annual herb	Channel (river plus banks)	Edge of pans in brackish soils	Soil stabilizer	LP	?	20, 10(123)
BORAGINACEAE	<i>Trichodesma physaloides</i> (Fenzl) A.DC.	E: Chocolate bells; A: Sjokoladeklokies, slankop	Shrub	Floodplain wetland	Grassland on margins of marshes	Soil stabilizer; flood retention	KZN, MP, LP, NW, GA & Swa	?	20, 50, 8(178), 10(124), 23(NA), 34(320), 54(8)
FABACEAE	<i>Trifolium burchellianum</i> Ser. ssp. <i>burchellianum</i>	E: Wild clover, Burchell's clover; A: wildeklawer; S: moqophi, moroko; Z: usithathi	Perennial herb	Flat	Wet areas on forest margins	Soil stabilizer	WC, EC, FS, KZN, MP, NC & Les	?	8(388), 10(126), 21(665), 23(NA), 34(555), 49(286), 53(165)
ALLIACEAE	<i>Tulbaghia acutiloba</i> Harv.	E: Wild garlic; A: wildeknoffel; SS: motsuntsunya ne, sefothafotha; Zulu: ishaladi lezinyoka; Other: lisela	Perennial herb	Flat	Dry rocky grassland	Soil stabilizer	EC, FS, KZN, MP, LP, NW, GA, Les & Swa	Snake repellent: Depressed fontanel: Plant Menstrual problems, chest problems, fever, asthma, ulcers, constipation, stomach problems	8(510), 10(127), 21(716 & 717), 23(NA), 34(956), 49(52), 66(NA)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
	<i>Tulbaghia violacea</i> Harv. var. <i>violacea</i>	E: Wild garlic; A: wildeknoflok; S: konofolo ya naga	Perennial herb	Flat	Dry to moist	Bank stabilization	WC, EC & KZN	Fever: Rhizome & Leaves Asthma: Rhizome & leaves Constipation: Rhizome & leaves Snake repellent: Rhizome & leaves Oesophageal cancer: Leaves Stomach complaints: Pulmonary tuberculosis: Bulb Antihelmintic: Bulb	10(127), 21(717), 23(NA), 24(134), 34(957), 44(4)
LENTIBULARIACEAE	<i>Utricularia sandersonii</i> Oliv.	E: Bladderwort; A: blaskruid	Perennial herb	Hillslope seep	Wet, vertical rocks	Soil stabilizer; insectivorous	EC & KZN	?	8(486), 10(128), 23(NA), 25(170), 34(603)
ASTERACEAE	<i>Vernonia wallastonii</i> S.Moore	None	Shrub	Channel (river plus banks)	Mountains, forest margins, along streams and in forest paths	Bank stabilizer; flood retention	KZN, MP, LP & Swa	?	10(133), 23(NA), 34(309)
FABACEAE	<i>Vigna vexillata</i> (L.) A.Rich. var. <i>vexillata</i>	E: Wild-cowpea, wild sweetpea; A: wilde-ertjie, wilde-akkerboontjie; Z: isikhwali, ubombo,	Climber	Flat	Grassland and woodland	Soil stabilizer	EC, FS, KZN, MP, LP, NW, GA & Swa	Fever:	10, 8(398), 90, 10(134), 23(NA), 24(30), 34(557), 49(282)

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Habitat	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
		umcwasibe, umnxwasibe							

Appendix 5: List of exotic plants occurring in freshwater ecosystems that is utilised for medicinal purposes.

Family	Genus and specie name	Other names	Plant type	Freshwater ecosystem	Ecological Role	Distribution	Disease symptoms: Plant parts used	Literature with Page no.
ACORACEAE (SIBIS) (ARACEAE 80)	<i>Acorus calamus</i> L.	E: sweet calomel/flag/sedge; A: makkalmoes; Z: ikalamusi, indawolucwatha	Perennial herb	Channel (river plus banks)	Bank stabilizatio n; water quality; water cycling; flood retention	NW	Chest colds, emetic, anti-sposmodic, nervous disorders, tonic, stimulants, aphrodisiacs, rheumatism, tooth-powders, carmanitive, cronic dysentery,anthelmintic, dyspepsia, flatulence: rhizomes used as ; tinctures, dried or candied rhizomes chewed or taken as an infusion	9(28), 1(22), 10(18), 25(48), 80(184), 83(131)
AMARANTHACEAE	<i>Alternanthera nodiflora</i> R.Br	None	Perennial herb	Channel (river plus banks)	Bank stabilizatio n; water quality; water cycling; flood retention	NAM,BOT,LES, NNP,NNP,NWP ,GAU,FST,KZN, NCP	General healing and pain killers	10(10), 39(236), 81(NA)
AMARANTHACEAE	<i>Alternanthera sessilis</i> (L.) DC.	None	Perennial herb	Channel (river plus banks)	Bank stabilizatio n; water quality; water cycling; flood retention	(Pantropica) NAM,BOT,SWZ, ,NNP,GAU,MPU ,FST,KZN,NCP	General healing and pain killers: Plant sap	10(10), 23(NA), 25(52), 39(236)
AMARANTHACEAE	<i>Amaranthus thunbergii</i> Moq.	E: Cock's comb, pigweed; A: hanekam, misbredie; S: theepe; Z: imbuya	Annual herb	Flat	Soil stabilizer	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Bot, Les, Nam & Swa	Stimulate uterus in delayed childbirth: leaves	8(232), 10(11), 23(NA), 39(237)
ARACEAE	<i>Pistia stratiotes</i> L.	E: water lettuce, Nile cabbage, Nile lettuce, shellflower, water fern, water cabbage; A: waterslaai; Other: okambodi, oumbodi	Aquatic	Lakes/pools	Water quality; water cycling; Species diversity support	WC, EC, KZN, MP, NW & Swa	Septic wounds: Insect repellent: Dysentery: Asthma:	8(506), 10(103), 13(0), 17(0), 21(115), 23(NA), 25(61), 34(972), 48(24)

ASPHODELACEAE	<i>Aloe buettneri</i> A.Berger	None	Geophyte	Floodplain wetland	Soil stabilizer	NAM	Regulate menstrual cycle and treat infertility; skin trouble: burns, wounds, insect bites; Laxative: Roots & plant; Internal parasites: Roots & Plant; Rheumatism: Leaf ash; Cough: Leaf decoction; Venereal diseases and infertility: Whole plant; Cancer: Leaf decoction; Avian cholera: Leaf decoction; anthelmintic: Leaf sap	10(24), 52(0, 710, 72(NA), 73(NA)
ASTERACEAE	<i>Achillea millefolium</i> L.	E: Common yarrow, milfoil; A: Duisendblaar-achilla.				EC, KZN, MP, GA & Bot	Leaves and stem used for flue, coughs and fever.	8(218), 10(26)
ASTERACEAE	<i>Ageratum conyzoides</i> L.					EC, KZN, MP, LP, Bot & Swa	abdominal pain: root decoction	10(26), 21(197), 39(290)
ASTERACEAE	<i>Chromolaena odorata</i> (L.) R.M.King & H.Rob	E: Triffid weed, paraffin weed; A: paraffienbos; Z: usandanezwe	Shrub	Floodplain wetland	Soil stabilizer	NNP,KZN	?	8(210), 10(29)
ASTERACEAE	<i>Eclipta prostrata</i> (L.) L.	E: eclipta; Z: ikhambi lakwangelosi, iphamphuce				KZN, MP, LP, GA, Bot, Nam & Swa	Whole plant used as traditional medicine; Used in Africa and India; For skin infections; Reported promising for infective hepatitis	1(322), 8(216), 10(30), 25(68)
ASTERACEAE	<i>Tagetes minuta</i> L.	E: Tall khaki weed, Mexican marigold, stinking Roger, master John-Henry, marigold; A: kakiebos, langkakiebos, Africander bossie, kleinafrikaner, stinkbos, stinkkhakiebos, Transvaalsekakiebos; S: jeremane; Z: insangwana, unulkani; Other: mbanje	Annual herb	?	Soil stabilizer	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Bot, Les, Nam & Swa	Nematode infections: Oil extraction; Dog fleas: Oil extraction; Chest problems: bark	8(318), 10(120), 21(983 & 1145), 23(NA), 24(226), 34(299), 50(105), 53(224), 54(294)
ASTERACEAE	<i>Xanthium strumarium</i> L.	E: Borrad coclebur, burweed, clodbur, cocklebur, cockle bur; A: groot boetebossie, kankerros, spitsklitse, rivierklits, boetebos; S: hlaba-hlabane; Other large cocklebur	Annual herb	Channel (river plus banks)	Bank stabilizer; flood retention	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Bot, Les & Swa	Diaphoretic; Sedative; Catarrh: Leaves, fruit & root; Scrofula: Leaves, fruit & root; Leprosy: Leaves, fruit & root; Skin conditions: Leaves, fruit & root; Cancer: Leaves, fruit & root; Dysenteries: Leaves, fruit & root	10(136), 21(299), 303, 304 & 1146), 23(NA), 34(309), 48(37), 50(107), 54(17-18)

ASTERACEAE	<i>Pseudognaphalium luteo-album</i> (L.) Hilliard & B.L.Burt	E: Jersey cudweed; A: roerkruid, vaalbossie; SS: manku, mosuoane, toane; S: impepho; Z: umgilane; Other: multuvi-luvi	Annual herb	Channel (river plus banks)	Bank and soil stabilizer; water quality; flood retention; species diversity support	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Bot, Les, Nam & Swa	Fever: whole plant plant Constipation, flu, colds, chest problems, headaches and respiratory problems: leaves & stem	8(310), 10(108), 21(234), 23(NA), 34(276), 53(219)
BORAGINACEAE	<i>Heliotropium indicum</i> L.	None	Annual herb	Channel (river plus banks)	Soil stabilizer; water quality; flood retention	NAM,BOT,KZN	?	10(42), 23(NA), 34(317), 39(352)
CHENOPODIACEAE	<i>Chenopodium album</i>	E: fat hen; A: hondepisbossie, misbredie, varkbossie; Z: imbilicane, isijabane	Perennial herb	Floodplain wetland	Soil stabilizer	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Bot, Les, Nam & Swa	Blood purifier, worm infestation : decoction ?; Genital irritation in children: finely powdered leaf as dusting powder	1(86), 10(49), 16(), 23(364), 39(373), 81(843)
CHENOPODIACEAE	<i>Chenopodium ambrosioides</i> L.	E: sandworm plant; A: galsiekte bos, stinkblaar, hondepisbos; S: khobosiu, mokhankha; X;Z; insukumbili	Perennial herb	Floodplain wetland	Soil stabilizer	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Bot, Les & Nam	Cough suppressant: green leaf tincture; Colds, stomach ache: infusion?; Eczema: plant decoctions topically; Remove sand worms; poultices ; Colic; insomnia children: leaves, twigs in enemas; Madness, convulsion ,uterine, chesspains, fevers in infants: leaves in medicine; Many uses in rest of Africa	1(87), 8(526), 10(49)
CONVOLVULACEAE	<i>Ipomoea alba</i> L.	E: Moonflower, wooden rose creeper; A: maanblom	Climber	Floodplain wetland	Soil stabilizer	ECP, KZN	?	8(178), 10(52)
FABACEAE	<i>Indigofera arrecta</i> Hochst. ex A.Rich.	E: Natal indigo; A: verfbossie; Z: umphekambedu	Shrub	Channel (river plus banks)	Bank and soil stabilizer; water quality; flood retention; species diversity support	KZN, MP, LP, GA, NC & Swa	?(Probably) management of non- insulin dependant diabetes investigated ?	1(135), 10(73), 21(611), 34(514), 39(451)

FABACEAE	<i>Paraserianthes lophantha</i> (Willd.) I.C.Nielsen ssp. <i>Lophantha</i>	E: Australian albizia; A: stinkboon	Tree	?	Bank and soil stabilizer; water quality; water cycling; flood retention; species diversity support	WC & EC	Gynaecological remedy: Root	80, 10(95), 21(557), 23(NA), 34(537), 48(227)
LAMIACEAE	<i>Hyptis pectinata</i> (L.) Poit.	?	Annual herb	Channel (river plus banks)	Soil stabilizer	BOT,SWZ,NNP, MPU,KZN	?	8(184), 10(89)
PHYTOLACCA-CEAE	<i>Phytolacca octandra</i> L.	E: Inkberry, pokeweed, forest inkberry; A: bobbejaandruif, inkbossie, bobbejaandruuwe, koeliedruif; X: amahashe, ayatsala, umnanja; Z: umnanja, umnyandla	Shrub	Hillslope seep	Soils stabilizer; water cycling	WC, EC, FS, KZN, MP, LP, GA & Swa	Snakebite; ; Chest complaints; ; Septic wounds; ; Lung sickness; ; Siphilis; ; Emetic;	8(52), 10(103), 21(834), 23(NA), 34(776), 48(272), 53(154), 60(72), 61(104)
PLANTAGINA-CEAE	<i>Plantago major</i> L.	E: Broadleaved ribwort, broad-leaved plantain, broadleaf, cat-track plant, common or large plantain, larger ribwort plantain, rib-grass, ribwort, rippledseed plantain, white-mans-foot, wild sago. A: platvoet, breeblaar, breeblaar-plantago, grootongblaar, grootweeëblaar, grootweegbree tong-blaar, weegbredieblaar, weegbree, grootweeg-blaar,weeblaar; weegbredie; SS: bolia; Z: indlebe-kathek-wane enkulu	Perennial herb	Flat	Soil stabilizer	WC, EC, FS, KZN, MP, LP, NW, GA & NC	Stomach complaints: Bark; Pain & Fever: Bark; Ear infections: Leaf juices; Malaria: Leaf juices; Sores: Leaves; Skin inflammation: Leaf	10, 8(588), 10(105), 130, 21(848), 23(NA), 34(778), 50(98), 83(114)

POACEAE	<i>Aira cupantiana</i> Guss.	?	Grass	Flat	Soil stabilizer	WC, EC, FS, KZN, NC & Les	?	10(108), 68(150)
POACEAE	<i>Anthoxanthum odoratum</i> L.	?	Grass	Floodplain wetland	Soil stabilizer; flood retention; species diversity support	EC, KZN & MP	?	10(108)
POACEAE	<i>Bromus catharticus</i> Vahl.	?	Grass	Channel (river plus banks)	Soil stabilizer; water quality; flood retention; species diversity support	WC, EC, FS, MP, LP, NW, GA, NC, Les & Nam	?	10(109), 39(144)
POACEAE	<i>Coix lacryma-jobi</i> L.	E: Job's tears; : Jobskraal;tandkraal,traan gras; Z: ilozisi	Grass	Channel (river plus banks)	Soil stabilizer	EC, KZN, MP & LP	Teething in infants: chew seeds; (wide use in world eg.bronchitis, inflammatory urinary organs, kidney and bladder conditions,rheumatism: glumes Eyes: Plant juices	1(17), 10(109)
POACEAE	<i>Pennisetum clandestinum</i> Hochst. ex Chiov.	E: Kikuyu grass; A: kikoejoegras, kikuju, kikujugras; S: tajoe	Grass	Floodplain wetland	Soil stabilizer; flood retention	WC, EC, KZN, MP, GA & Swa		80, 20(478), 21(483), 23(NA), 34(1180), 48(15), 50(97), 54(84 & 191)
POACEAE	<i>Setaria italica</i> (L.) P.Beauv.	E: Common millet, foxtail millet, German millet, Hungarian grass, Italian millet, Japanese millet; A: boermanna, geelgras, katstert, manna, mannakoring, vingermanna, witmanna, geelboermanna, rooimanna; S: Joang-ba-lipere	Grass	?	Soil stabilizer	WC, EC, FS, KZN, MP, LP, GA & NC	?	10(112), 21(485), 23(NA), 24(12), 34(1186)

POLYGONACEAE	<i>Rumex crispus</i> L.	E: Dock, curly dock, curled dock, curly rumex, narrow-leaved dock, sour dock, yellow dock, curled sorrel, narrow dock; A: tongblaar, weeblaar, wilde spinasie, suring, beeslaai, krulblaarrumex, krulsuring; X: idololenkonyane, ubuklunga; Z: idololenkonyane, ubuklunga	Perennial herb	Channel (river plus banks)	Bank and soil stabilizer; water quality; flood retention; species diversity support; invader	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Les & Nam	Bloedarmoede: Roots; Weakness: Roots; Rheumatism: Roots; Bronchial infections: ?; Itching, sores, swelling, etc.; Blood poisoning: Leaves; Anthrax: Plant; Skin diseases: Rhizome; Toothache: Juices	10(110), 21(527 & 866), 23(NA), 24(74), 34(791), 39(564), 46(83), 48(273), 54(221)
PRIMULACEAE	<i>Anagallis arvensis</i> L. ssp. <i>arvensis</i>	E: Scarlet pimpernel	Annual herb	Floodplain wetland	Soil stabilizer	NNP, GAU, FST, KZN, ECP, WCP	Diuretic, diaphoretic, expectorant, brain diseases, dropsy, liverspleen, etc.	8(70)?, 10(115), 83(113)
VERBENACEAE	<i>Lantana camara</i> L.	E: Common lantana, bird's brandy, tickberry; A: Gewone lantana; X: ubutywala; Z: ubukhwebezane	Shrub	Flat	Soil stabilizer	WC, EC, KZN, MP, LP, NW, GA, Bot & Swa	Gastro-intestinal disturbances	8(422), 10(170), 21(1049), 48(118), 54(24), 60(171)
CONVOLVULACEAE	<i>Cuscuta australis</i> R.Br.	E: Beggarweed; A: Dodder	Perennial herb	Floodplain wetland	Parasitic	BOT, NNP, GAU	Urinary, kidney, spleen and liver disorders: Whole plant	10(52), 23(NA), 34(373), 39(381), 83(51)
CONVOLVULACEAE	<i>Ipomoea indica</i> (Burm.f.) Merr.	E: Morning glory	Climber	Channel (river plus banks)	Soil stabilizer	SWZ, GAU, MPU, KZN, ECP, WCP	Pain; skin diseases and wounds	10(52), 23(NA), 34(376), 75(NA), 76(NA), 77(275)
POLYGONACEAE	<i>Persicaria hydroptiper</i> (L.) Spach Exotic	E: Water pepper	Annual herb	Channel (river plus banks)	Bank stabilizer; flood retention	EC, KZN & MP	Stimulant, diuretic, diaphoretic: Infusin in cold water	30, 8(134), 10(100), 170, 23(NA), 25(229), 34(789), 83(135)

POLYGONACEAE	<i>Persicaria lapathifolia</i> (L.) GrayExotic	E: Pale persicaria, spotted knotweed; A: hanekam, tongblaar; S: khamane-ea-noka, tolo- la-khongoana; Z: idolo- lenkonyane, umancibikele, umancibilika	Annual herb	Aquatic	Bank stabilizer; water quality; water cycling; flood retention; species diversity support	WC, EC, FS, KZN, MP, NW, GA, NC, Bot, Les, Nam & Swa	Depressant & can stop heart systole; menstrual problems and infertility in men: roots	20, 30, 8(376), 10(100), 21(860), 23(NA), 25(229), 34(789), 50(97), 66(NA)
SOLANACEAE	<i>Nicotiana glauca</i> Graham	E: Tobacco tree, wild tobacco, coneton, Mexican tobacco, mustard tree, San Juan tree, tobacco plant, tobacco; A: Jan-Twak, wildetabak, Graham tabakboom, tabakboom, tabakbos, volstruisgif, volstruisgifboom, wildetwak; S: mohlafotha, tabaka bume.	Shrub	Channel (river plus banks)	Soil stabilizer; flood retention	WC, EC, FS, KZN, MP, LP, NW, GA, NC, Les, Nam & Swa	Coughs : Colds: Leaves; Diuretic: Roots & stem; Narcotic: Decoction of flower; Diabetic: Grounded plant; Tranquillising: Leaves; Snakebite: Oil; Insectbites: Oil; Lice: Oil	10(91), 20(), 21(962, 985 & 986), 48(185), 51(25 & 237)
VERBENACEAE	<i>Verbena officinatis</i> L.	E: European verbena, vervain, wild verbena, common vervain; A: Europese verbena; S: seona-se-seholo	Annual herb	Flat	Soil stabilizer	WC, EC, FS, KZN, MP, LP, NW, GA & NC	Fever: ; Anaemia: ; Dropsy: ; Pleurisy: ; Scrophula: ; Aphrodisiac: ; Antineuralgic: ; Rheumatism: ; Wounds: ; Chronic eczema: ; Chronic bronchitis: ; Menstrual disorders: ; Diaphoretic: ; Anthelminthic:	10(128), 17(306), 21(1054), 23(NA), 34(944), 83(147)