

*Easy identification of some  
South African*

# **WETLAND PLANTS**

*(Grasses, Restios, Sedges, Rushes, Bulrushes,  
Eriocaulons and Yellow-eyed grasses)*

**CE van Ginkel, RP Glen,  
KD Gordon-Gray,  
CJ Cilliers, M Muasya  
& PP van Deventer**



**WATER  
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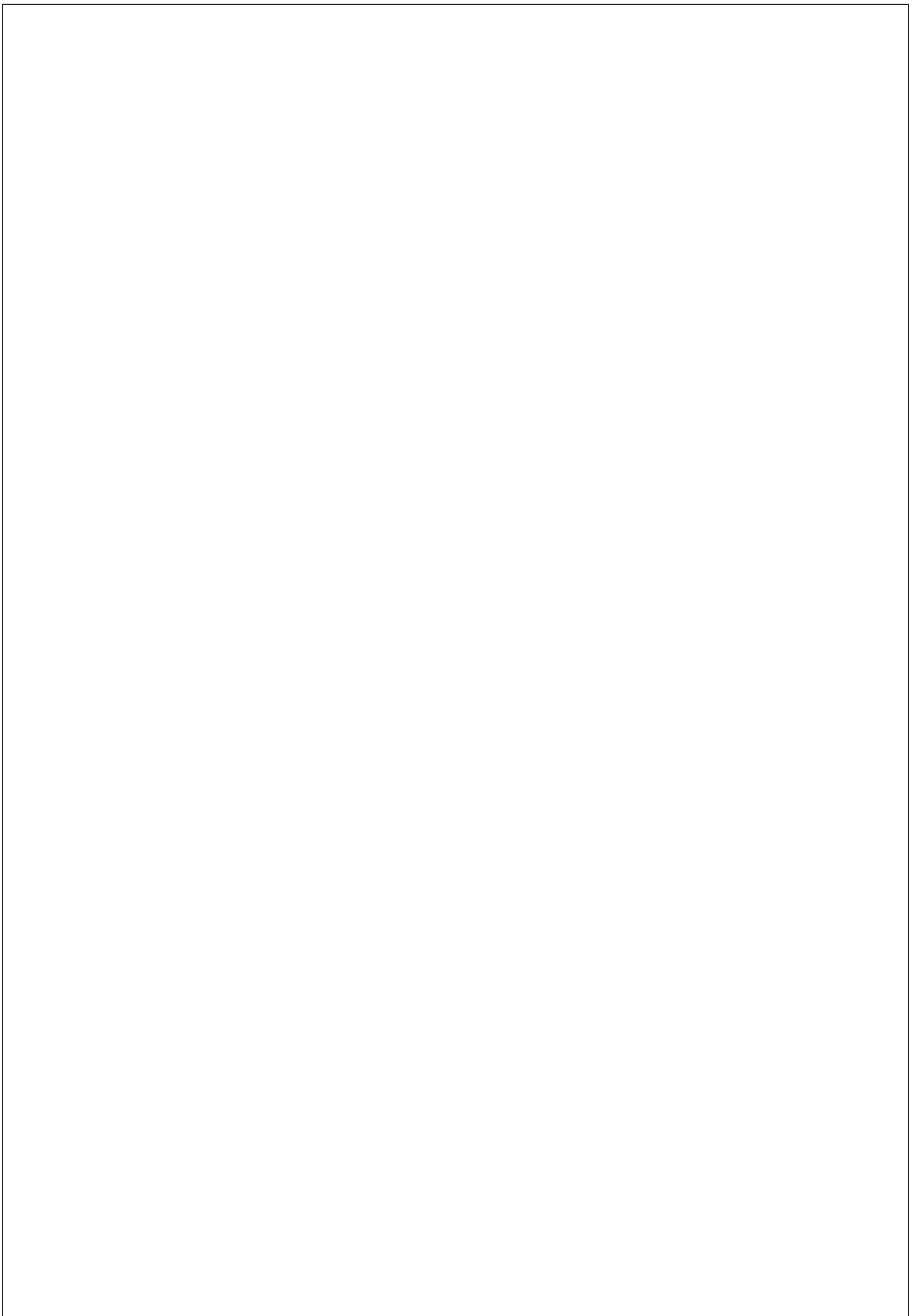


**TT 479/10**



**Vlei near Gansbaai, Western Cape**

Dedicated to Gansie (PP) van Deventer without whom  
this field guide would not have seen the light.



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Treur River, Mpumalanga

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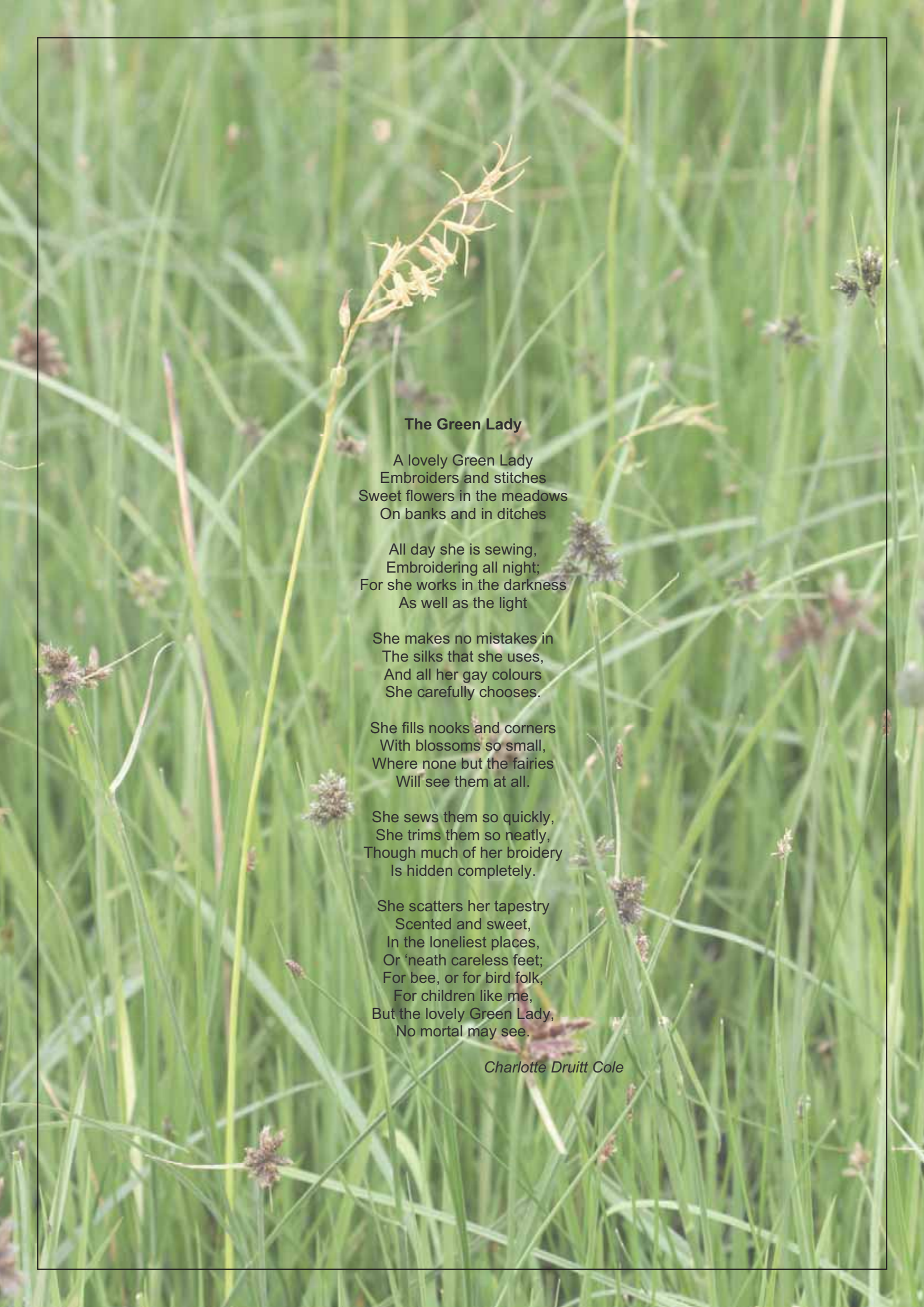
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KwaZulu- Natal (BH Hohls)

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### The Green Lady

A lovely Green Lady  
Embroiders and stitches  
Sweet flowers in the meadows  
On banks and in ditches

All day she is sewing,  
Embroidering all night;  
For she works in the darkness  
As well as the light

She makes no mistakes in  
The silks that she uses,  
And all her gay colours  
She carefully chooses.

She fills nooks and corners  
With blossoms so small,  
Where none but the fairies  
Will see them at all.

She sews them so quickly,  
She trims them so neatly,  
Though much of her broidery  
Is hidden completely.

She scatters her tapestry  
Scented and sweet,  
In the loneliest places,  
Or 'neath careless feet;  
For bee, or for bird folk,  
For children like me,  
But the lovely Green Lady,  
No mortal may see.

*Charlotte Druitt Cole*

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# Chapter 1

## INTRODUCTION

Wetlands are recognized as one of the richest and most productive ecosystems on earth. Associated with wetlands are a wide range of specially adapted plant species giving food and shelter to a variety of animal life. Earlier man also relied on food found in wetlands. In more modern times wetlands were regarded as useless and wetlands were extensively drained to produce arable land for crops. The drive now is to conserve and restore wetlands as far as possible.

The initial drive behind conservation was the signing of a Wetland Convention in Ramsar in 1971, to save wetlands on a global scale because of waterfowl, but more recently conservation is also because of the plants and animals that live in these areas. South Africa signed the Wetland convention in 1975 and are bound by this.

Wetlands in South Africa are protected by Law (Water Act of South Africa (Act 36 of 1998)). There are different types of wetland but in broad it can be described as “*land which is transitional between terrestrial and aquatic ecosystems, 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 support or would support vegetation typically adapted to life in (water or) saturated soil.*”

In classifying wetlands the following diagnostic characteristics are used:

- “*land which is transitional between terrestrial and aquatic ecosystems, where the water table is usually at or near the surface, or the land is periodically covered with shallow water*”, and which land soils (called hydromorphic soils) display typical characteristics of soils that are subject to prolonged periods of saturation.
- The occasional or permanent presence of water supporting plants that grow in water saturated conditions (known as hydrophytes or obligate wetland plants).
- A high water table that leads to anaerobic conditions in the top 50cm of the soil.

Recently a list of wetland plants in Southern Africa has been completed by Glen (2010), but there is no field guide available for the layman or student on the wetland plants of South Africa. The number of plants associated with wetlands in South Africa is such that all could not be published in one book. This lead to this field guide, that primarily includes obligate wetland plants as outlined in the caption of this book, with special focus on all grass-like plants. The plant families included are all monocotyledons and include the *Cyperaceae* (sedges), *Eriocaulaceae* (ericaulons), *Juncaceae* (rushes), *Poaceae* (grasses), *Prioniaceae* (palmiet), *Restionaceae* (restios), *Typhaceae* (bulrushes) and the *Xiridaceae* (yellow-eyed grasses).

South Africa is known to be a water scarce country. The continuous supply and protection of our water resources is essential for the country. Wetlands are important in the protection, processing and regulation of runoff. A wetland acts as a great sponge, holds back flood waters and releases it during the drier periods. Wetlands, therefore, reduce flood damage and soil erosion. Wetlands are also ground water recharge sites, and it has the ability to remove pollutants from the water.

In general wetlands are protectors of the environment, providing breeding grounds and support a wide variety of species, which are totally reliant on wetlands for their survival. These include biota from all trophic levels. Photographing these plants, the authors stood in wonder at the variety of minute insects and other small animals that live on these plants, and which are probably essential in the pollen and seed dispersal of these plants. Many of the wetland plant species are used for food, craft manufacturing, medicinal purposes, building material and as fuel.

Wetlands are threatened habitats, where some 50% of the wetlands of South Africa have already been destroyed. Agriculture, mining, rural practices and urban developments are factors destroying our wetlands. All these activities have an impact on water flow and water quality, which negatively impact on wetland health.

There is a major drive in identifying all the existing wetlands and protecting these wetlands in South Africa. Wetland plants, which are but one of the delineators, the vegetation indicator, to identify the outer edge of a wetland, are the main aim of the Guide. Plant communities change as one moves along the wetness gradient from the centre of a wetland, through the wetland edge and into the adjacent drier terrestrial areas. The change in species composition provides valuable information for determining the wetland boundary.

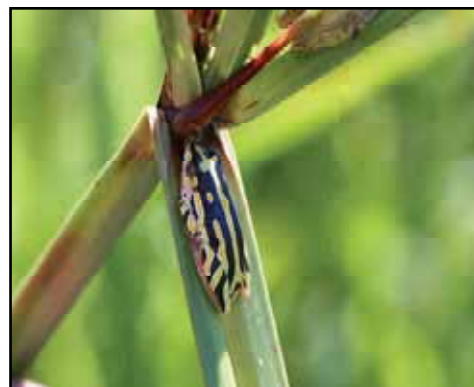
This field guide is addressing the second attribute in the identification of wetlands, namely the identification of the wetland plants. This Guide is by no means complete, but is the first in addressing some of the grass-like plants that may be encountered in a wetland. This includes the grasses, reeds, restios, sedges, rushes, bulrushes, eriocaulons and yellow-eyed grasses. The main focus is on selected obligate wetland plants. These are plants that need a high water table, as the whole life cycle is spent in water, either emergent or submerged. The soil is hydromorphic and the plants can withstand or have special adaptations to survive in anaerobic soil conditions. There are also a selected number of plants that have been included at the back of the guide, and that are not *per se* obligate wetland plants. These plants vary from opportunistic to positive facultative plants, and may be found in, or in close proximity to, a wetland.

The guide is aimed at covering primarily the area of South Africa, but if the necessary information and photographs were found, the distribution within neighboring countries is indicated on the distribution maps. Many of the plants are not restricted to South Africa as some occurs throughout Africa and some are cosmopolitan.

The field guide includes over 290 species of wetland plants. The plants within this guide are often overlooked by the nature lover, due to the inconspicuous small flowers that are characteristic of most of the plants within the guide, and also due to the habitat that includes fairly harsh conditions, including muddy, wet and soggy situations. There is, however, a beauty un-locked by these, often minute flowers, for those with a magnifying glass in hand' or looking closer.



A Diptera sp resting on the flowerhead of  
*Kyllinga melanospermus*



Painted reed frog resting on the leaf of *Cyperus imbricatus*

## Chapter 2

### HOW TO IDENTIFY WETLAND PLANTS IN THIS BOOK

Eight plant families are covered in the guide. These are the *Cyperaceae* (sedges), *Eriocaulaceae* (ericaulons), *Juncaceae* (rushes), *Poaceae* (grasses), *Prioniaceae* (palmiet), *Restionaceae* (restios), *Typhaceae* (bulrushes) and the *Xiridaceae* (yellow-eyed grasses). The families are organized alphabetically. Within each family the species are treated alphabetically, except for the grasses, that are grouped according to inflorescence form as in other grass field guides.

The key which is shown in Table 3.1 (See Chapter 3), will assist the reader in identifying the plant family.

#### 2.1 Wetland Types

When venturing into the field looking for wetland plants, you need to be aware of the different types of wetlands that are found as well as the different conditions that can be found in a wetland. In most parts of South Africa the summer rainfall conditions create very wet periods, while the winters are extremely dry. In the Western Cape the conditions are different, with very wet winter periods and fairly dry summer periods. Thus, the habitat of plants is often seasonally inundated with water, which creates temporarily wet areas. Basically, 5 types of wetlands are found; namely palustrine, lacustrine, riverine, estuarine and marine. In this Guide only the first 4 categories are covered.



Dry and wet conditions in a stream running through the Rietvlei Wetland  
Upstream of Rietvlei Dam, Gauteng.

- a) **Palustrine** wetlands; these are wetlands that have a high ground water content, but which can often be dry during the dry season. Water accumulates during the wet season and the plants that are adapted to these conditions do grow in these habitats. This is the habitat where many obligate (wet feet) plants are often found.



Maryvale Wetland, Gauteng

- b) **Lacustrine** systems have permanent wet conditions and include large and small dams, and shallow pans. Here plants often grow in the water; although certain riparian zones or floodplain areas can become dryer during the dry season.



Farm Dam North of Pretoria, Gauteng

- c) **Riverine** systems can have permanent running water (perennial) or are seasonally dry (temporary). Here the habitat include the seasonal flood plains along the river reaches.



Treur River, Mpumalanga

- d) **Estuarine** systems with water varying from fresh to brackish to very saline, and are often close to coastal or marine areas.



Swartvlei Estuary, Western Cape



## 2.2 Important plant structures or diagnostic plant characteristics

There are a number of characteristics that aid the correct identification of most plants. In general all plants have the following characteristics.

### **Roots**

All plants have a rooting system that anchors the plant, absorbs water, absorbs nutrients and that stores the nutrient reserve during unfavourable conditions. This is especially the case within the perennial obligate wetland plants that are sometimes subject to unfavourable conditions. Roots are distinguished from stolons and rhizomes by the absence of nodes and reduced leaves.

### **Stolons**

These are modified culms/stems growing horizontally on the surface of the soil. These differ from the culm in that it does not bear inflorescences, but it produce new shoots at the stolon node that give rise to new culms and inflorescences, from the nodes.

### **Rhizomes**

These are modified culm/stems which grow horizontally under the surface of the soil. It differs from the culm in that it does not produce inflorescences, but it produces new shoots at the nodes, producing new culms and inflorescences.

### **Culm/Stem**

In the *Cyperaceae* (sedges) and *Poaceae* (grasses) the culm/stem bears leaves and develop into inflorescences. It also serves as a transport system for water and nutrients in the plant.

### **Scape**

The flowering stem of a plant in which all leaves are basal and is  $\pm$  equivalent to the culm of *Cyperaceae* (sedges) and *Poaceae* (grasses).

### **Leaves**

These parts of the plant usually produce the nutrients by way of photosynthesis and enable the plants to grow, flower and produce seed to ensure continuation of the species. Leaves usually consist of the leaf sheaths and the leaf blades. The arrangement of the leaves is important in identifying a plant. Within the grasses and the restios there are also ligules present that need to be looked at for proper identification. Some sedges also have ligules, the characteristic of which aids in their identification. Within the restios, no leaves are present, but the leaf sheath is the most characteristic part of these plants.

### **Peduncle**

The flower stalk that bears either a solitary flower or a cluster of flowers.

### **Inflorescence**

This is the structure that carries the flowers of the plant. It is usually at the tip of the culm/scape, and can have different forms (see also pages 14 & 15).

### **Spike**

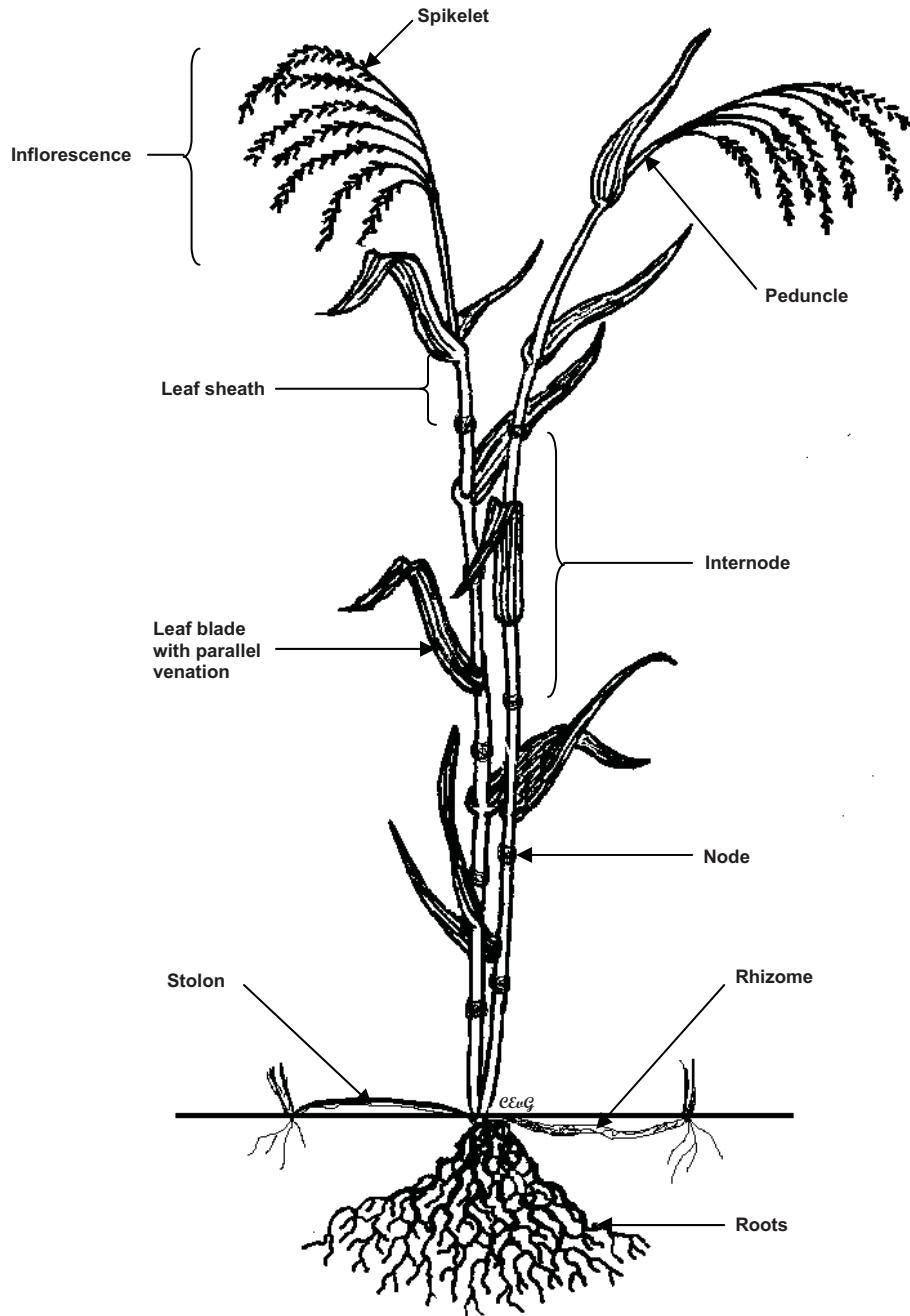
An inflorescence having a central stalk bearing a number of sessile or nearly sessile flowers.

### **Spikelets**

These are the flower bearing structures of the plants for especially the *Cyperaceae*, *Poaceae*, *Restionaceae* and *Xiridaceae*.

### **Seed**

These are the parts of the plant that ensure distribution and further propagation of plants. For proper identification of especially the *Cyperaceae* and *Restionaceae* the seed is quite often vital in making the right identification. For this a microscope is necessary for examining the seeds, as the seeds are extremely small in most cases. A 10x magnifying glass is a very important aid when examining plants in the field. It will thus be best if the whole plant and seed can be identified by a herbarium specialist/plant taxonomist.

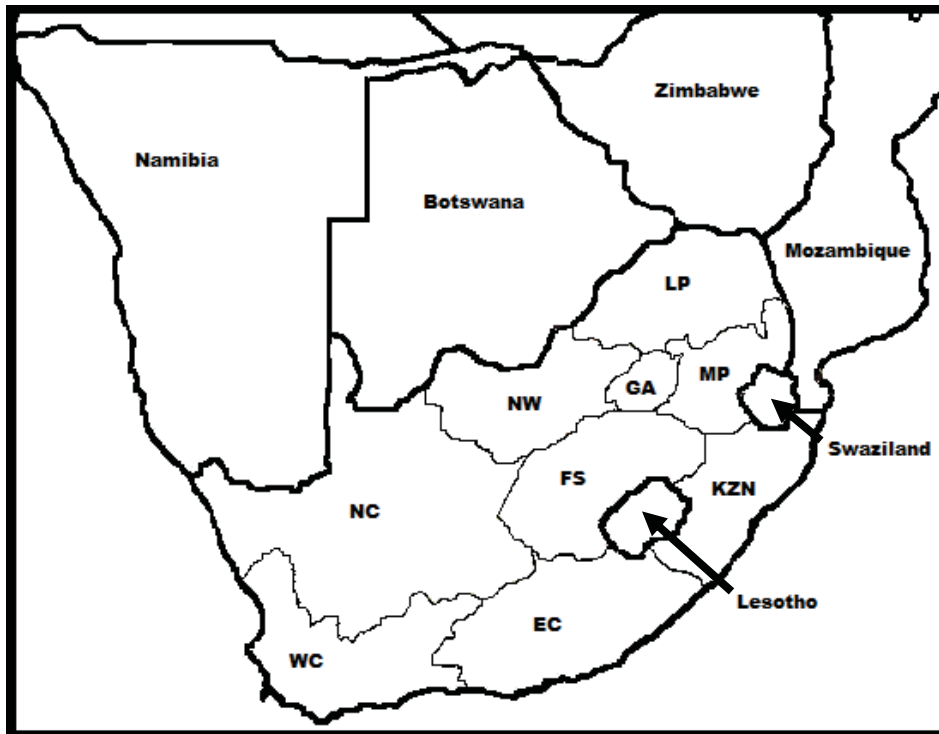


The plant structures of a typical monocotyledon

### 2.3 How to use this book

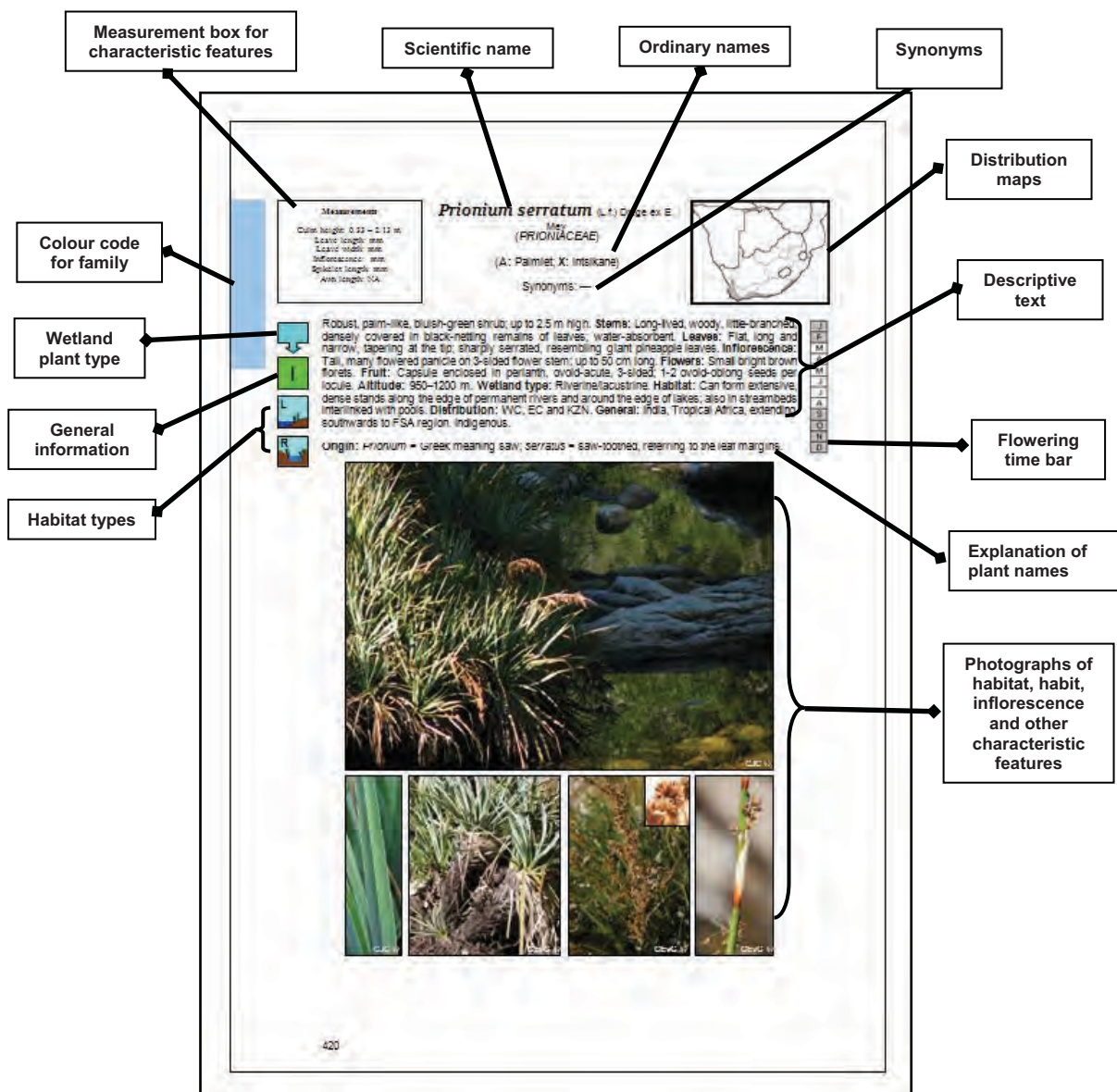
After a plant has been identified to family level, there are line illustrations before the photographic section. This assists the reader with the terminology of each plant family. These illustrations serve as an introduction to each family. Not all the obligate grass-like wetland plants have been included within this Guide, as photographic material was not available at the time of printing. Although not strictly obligate some of the more common and widely occurring plants are also included. It is foreseen that future editions will include more plants as photographs become available.

Distribution maps and text, where available, are included with each plant. The abbreviations for the different Provinces in South Africa are shown below and the explanations for these abbreviations are shown on Page 11.



Map of South Africa showing the different Provinces and neighbouring Countries.

Each plant is discussed on a separate page. The page layout is shown in the following figure. The discussion of the text layout are discussed on the following pages.



The page layout for each plant in the guide showing where to find what information.

### Plant names

The **scientific name** is the Latin name the plant is known by. However, due to new information that becomes available, plants often change names, and thus the **synonyms** are included and will help the reader to link older used scientific names to the present accepted name. It must be kept in mind that names may also change in future. **Common names**, used by primarily the laymen was included, as regional names may be quite different even in different parts of the country. The explanation for the language abbreviations related to the ordinary names is on page 11.

### Distribution maps

The **distribution maps** are in the right upper corner of the page. These maps show the present known plant distribution. These maps will assist the reader in finding the correct name to a plant, as

much work has been done on the distribution of the plants. However, it must be kept in mind that this may change, as new localities may be found in future.

### **Distinctive characteristics**

The characteristics that will assist greatly in identifying a plant are shown in the **Descriptive text**, the **Photographs** and the **Measurements** box. These are known information that were collected by researchers in the field and in the herbaria of South Africa.

The **Descriptive text** includes:

- a) A general description of the plant;
- b) A description of the culm/scape;
- c) A description of the leaves;
- d) A description of the inflorescence;
- e) A description of the flowers;
- f) A description of the fruit or seeds;
- g) The altitude at which the plants have been found;
- h) The habitat types where the plants occur;
- i) Distribution within the South African Provinces and neighbouring countries;
- j) General information known about the plant, and
- k) A short description of different characteristics of similar plants

### **Habitat**

The habitat (**Wetland type** and **Habitat type**) will also guide the reader in identifying the habitat where a plant occurs in. This information is also based on the many years of plant collection in South Africa, and certain plants are strictly found in specific wet habitats. While other plants may occur over quite a wide variety of habitats and may be tolerant of fresh water or more saline conditions.

### **General Information**

General information on whether a plant is endemic, naturalized or introduced are given in the **General Information** logo and in the **Descriptive text**. Information is also given, where it was available, on the use and further distribution outside of the South African borders.

### **Origin**

The origin of the scientific plant names is given in the **Explanation of names** and quite often gives one a descriptive understanding of certain characteristics of the plant.

### **Glossary**

There is a Glossary at the back of the Guide (Page 375) to assist the reader in understanding the terminology used in the Guide that may be unknown to the reader.

### **Name Index**

The Name Index include all the Scientific names, synonyms, and any other local names included and used by regional or local people The **Name Index** is organised in alphabetical order, to make the search for a specific species or local name easier.

## 2.4 Abbreviations

Abbreviations are used to a) describe the distribution of the plants and b) to indicate ordinary names used in indigenous languages. All abbreviations used within the text are explained under this section.

<b>A</b>	-	Afrikaans	<b>NA</b>	-	Not Available
<b>E</b>	-	English	<b>NC</b>	-	Northern Cape
<b>EA</b>	-	English American	<b>NP</b>	-	Not present
<b>EC</b>	-	Eastern Cape	<b>NW</b>	-	North West
<b>FS</b>	-	Free State	<b>S</b>	-	Sotho
<b>FSA</b>	-	Floristic Region of SA	<b>SS</b>	-	South Sotho
<b>G</b>	-	German	<b>Sw</b>	-	Swahili
<b>GA</b>	-	Gauteng	<b>T</b>	-	Tswana
<b>KZN</b>	-	KwaZulu-Natal	<b>WC</b>	-	Western Cape
<b>LP</b>	-	Limpopo	<b>X</b>	-	Xhosa
<b>MP</b>	-	Mpumalanga	<b>Z</b>	-	Zulu

## 2.5 Contributing Photographers

The project team are thankful for each and every photograph that was provided by the photographers. **All photographs are under copyright and the property of the photographers.** The following initials were used for each photographer.

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<b>BH</b>	-	Brendan Hohls	<b>LH</b>	-	Leslie Henderson
<b>CB</b>	-	Charlie Boucher	<b>LML</b>	-	Louis-M Landry
<b>CEvG</b>	-	Carin van Ginkel	<b>MFG</b>	-	Melissa Glen
<b>CHS</b>	-	Charles H. Stirton	<b>MM</b>	-	Muthama Muasya
<b>CJC</b>	-	Carina Cilliers	<b>OvG</b>	-	Oswald van Ginkel
<b>CJW</b>	-	Roddy Ward	<b>PL</b>	-	Peter Linder
<b>CMvG</b>	-	Chris van Ginkel	<b>PS</b>	-	Priscilla Swartz
<b>EvG</b>	-	Elsa van Ginkel	<b>RD</b>	-	Rouxdene Deysel
<b>GN</b>	-	Geoff Nichols	<b>RN</b>	-	Ronell Niemand
<b>HG</b>	-	Hugh Glen	<b>RvdW</b>	-	Retha van der Walt
<b>JJvG</b>	-	Cobus van Ginkel	<b>VB</b>	-	Volker Bittrich
<b>KR</b>	-	Karl Reinecke			

## Chapter 3

### ILLUSTRATED KEY TO GRASSLIKE WETLAND PLANTS

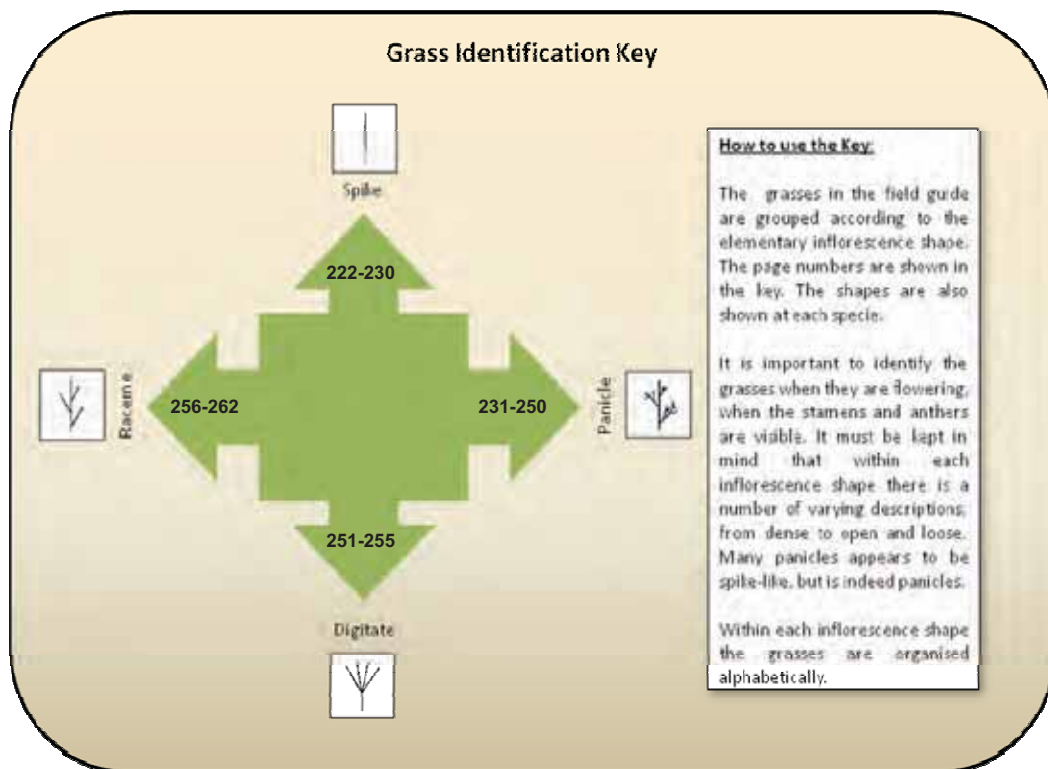
Table 1. Short list of characteristics to distinguish between the different plant families that are discussed in the guide.

Character	Stems (Culm/Scape)	Leaves	Inflorescence	Flower
<b>Cyperaceae</b> (Sedges) Pages: 18-197	Nodes usually absent; Mostly triangular in cross-section.	In 3 ranks; sheath closed around stem; ligule usually absent or poorly developed.	Usually umbellate or in dense heads; always subtended by leaf-like bracts	Spikelet, with each flower in the axil of a single bract (glume).
<b>Eriocaulaceae</b> (Eriocaulons) Pages: 198-207	Nodes absent; simple.	Arranged spirally in rosette; sheath at base of flowerstem (scape)	Single umbellate compound flowerhead on each scape	Unisexual flowers borne in dense head.
<b>Juncaceae</b> (Rushes) Pages: 208-218	Nodes absent; often with inner transverse septa	Alternate, round, flat, thread-like; or reduced to sheaths.	Cluster of terminal compound or panicle- like; subtended by leaf- like bracts.	Radially symmetrical; perianth segments 6 (2 whorls of 3)
<b>Poaceae</b> (Grasses) Pages: 219-263	Jointed with distinct nodes and internodes; usually round in cross- section.	In 2 ranks, sheath splits open with margins overlapping; ligule usually present.	Spike-like, racemes, panicles or digitate; not subtended by leaf-like bracts.	Spikelet with each flower contained between 2 bracts (lemma & palea)
<b>Prioniaceae</b> (Palmiet) Pages: 264-267	Woody; densely covered in net-like fibrous leaf remains.	Densely crowded at top with toothed margins and keel.	Much branched panicle.	Radially symmetrical on flower stalks.
<b>Restionaceae</b> (Restios) Pages: 268-348	With distinct nodes; centre mostly solid	Leaf blades absent; conspicuous sheaths split to end; often not persisting. Male (♂) and female (♀) sheaths identical.	Umbellate to paniculate at the tip of the culm.	Male (♂) and female (♀) spikelets on separate plants.
<b>Typhaceae</b> (Bulrushes) Pages: 349-353	Erect, unbranched	In 2 ranks; sheathing near base of plant. Broad leaves	Spike-like, round, superimposed male & female spikes.	Perianth segments scale or hair-like.
<b>Xiridaceae</b> (Yellow-eyed grasses) Pages: 354-361	Nodes absent; round in cross-section; Often spirally.	2-8 flat leaves with brownish base.	Spike-like terminal heads on single scape	Yellow 3 segmented flowers (often not present). Terminal head look like spikelet due to persistent bracts after flowering.

#### 3.1 Key to *Poaceae*

The *Poaceae* (grasses) has been singled out as it is accepted that this group is identified according to the form of the inflorescence. For the purpose of this guide the species are grouped into four groups according to the form of the inflorescence. Within each group the grasses are organized alphabetically. The pages, where certain inflorescence forms can be found are shown on the **Grass Identification Key**. It is important to be sure if the plant has a specific inflorescence form, as some inflorescences look like spikes but are in fact panicles, with rays close to the flower axis.

After the *Poaceae* and *Juncaceae* keys the different inflorescence types used in the Guide are shown to assist with the easy identification of the grasses.



### 3.2 Key to *Juncaceae*

This is a short and easy key to the *Juncus* species (pages 208-218) described in the guide.

1. Plants very short to medium height, soft, tufted, leaves flat, grass-like, arranged in a rosette around compact rhizome:

- J. capitatus* p 210
- J. dregeanus* p 211
- J. lomatophyllus* p 215

1. Plants robust, medium to tall, leaves always round resembling stems arising from a horizontal, creeping, woody rhizomes:

2. Leaves septate

(To feel the septa, lightly run stem or leaves through the index finger and thumb, hard bumps/ridges can be felt).

- J. exertus* p 213
- J. oxycarpus* p 216
- J. punctorius* p 217

2. Leaves not septate

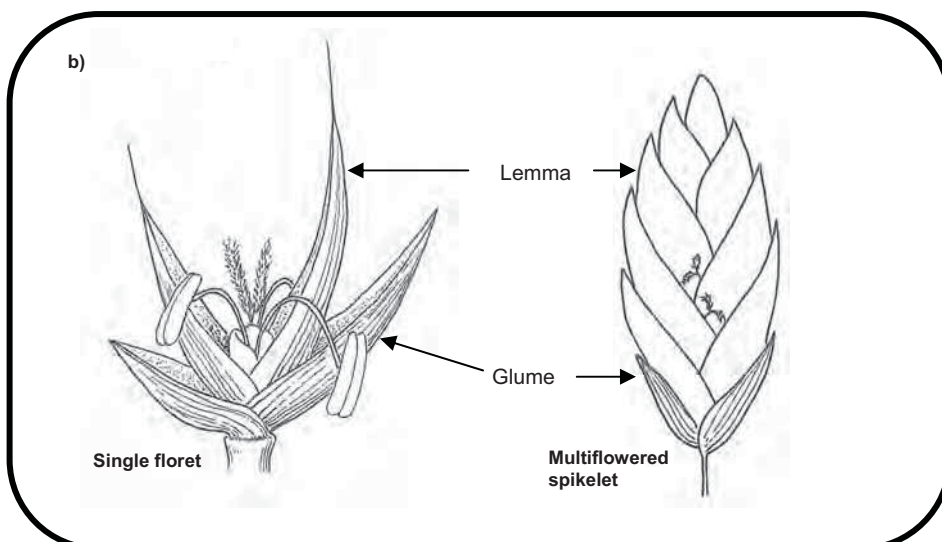
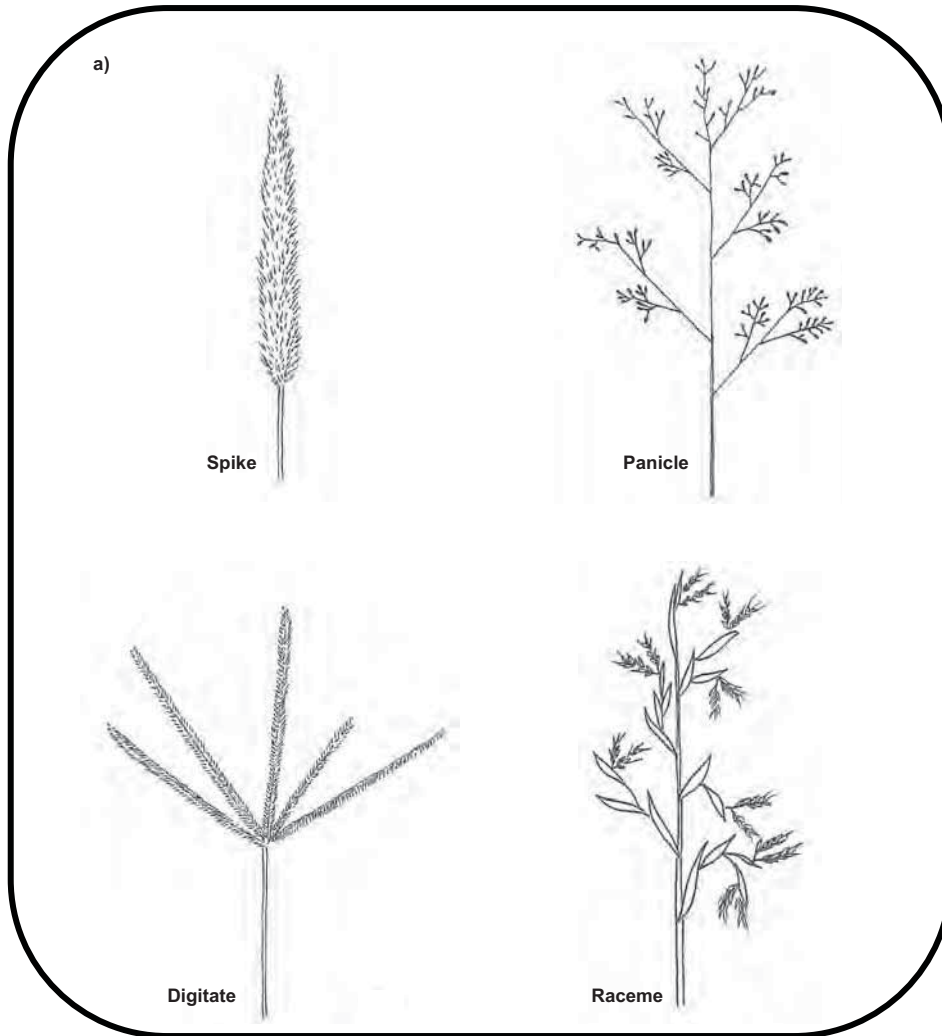
3, Plants medium height with thin, terete, soft bending leaves:

- J. effusus* p 212

3, Plants tall, robust with thick, hard, erect, terete leaves ending in sharp pointed tips:

- J. kraussii* p 214
- J. rigidus* p 218










Illustrations to show a) The different *Poaceae* inflorescence types used in the field guide, and b) The single floret and multiflored spikelets found in the *Poaceae* and the *Cyperaceae*. Redrawn from Van Oudtshoorn (2006)






# Chapter 4

## SYMBOLS USED





### Wetland Plant Type:

-  **Facultative wetland**
-  **Facultative negative**
-  **Facultative positive**
-  **Obligate wetland**
-  **Opportunist wetland**





### General Information:

-  **En** Endemic
-  **AL** Alien/Naturalised
-  **W** Declared weed
-  **I** Indigenous
-  **R** Red data/Rare

### Inflorescence Type

-  **Panicle**  
Where axis is divided into branches each bearing several flowers
-  **Raceme**  
Where flowers are borne on stalks along unbranched axis
-  **Spike**  
Single unbranched central axis with sessile spikelets
-  **Umbels/Digitate**  
Where the stalks or rays originate at the same point

### Wetland Habitat Type

-  **E** Estuarine
-  **L** Lacustrine
-  **P** Palustrine
-  **R** Riverine



Rietvlei Nature Reserve Wetland, Gauteng

## Chapter 5

### *Wetland Plant Descriptions and Illustrations*

When the plant has been keyed out to a specific Family, this Chapter is where you look for the plant that you have found in the field.

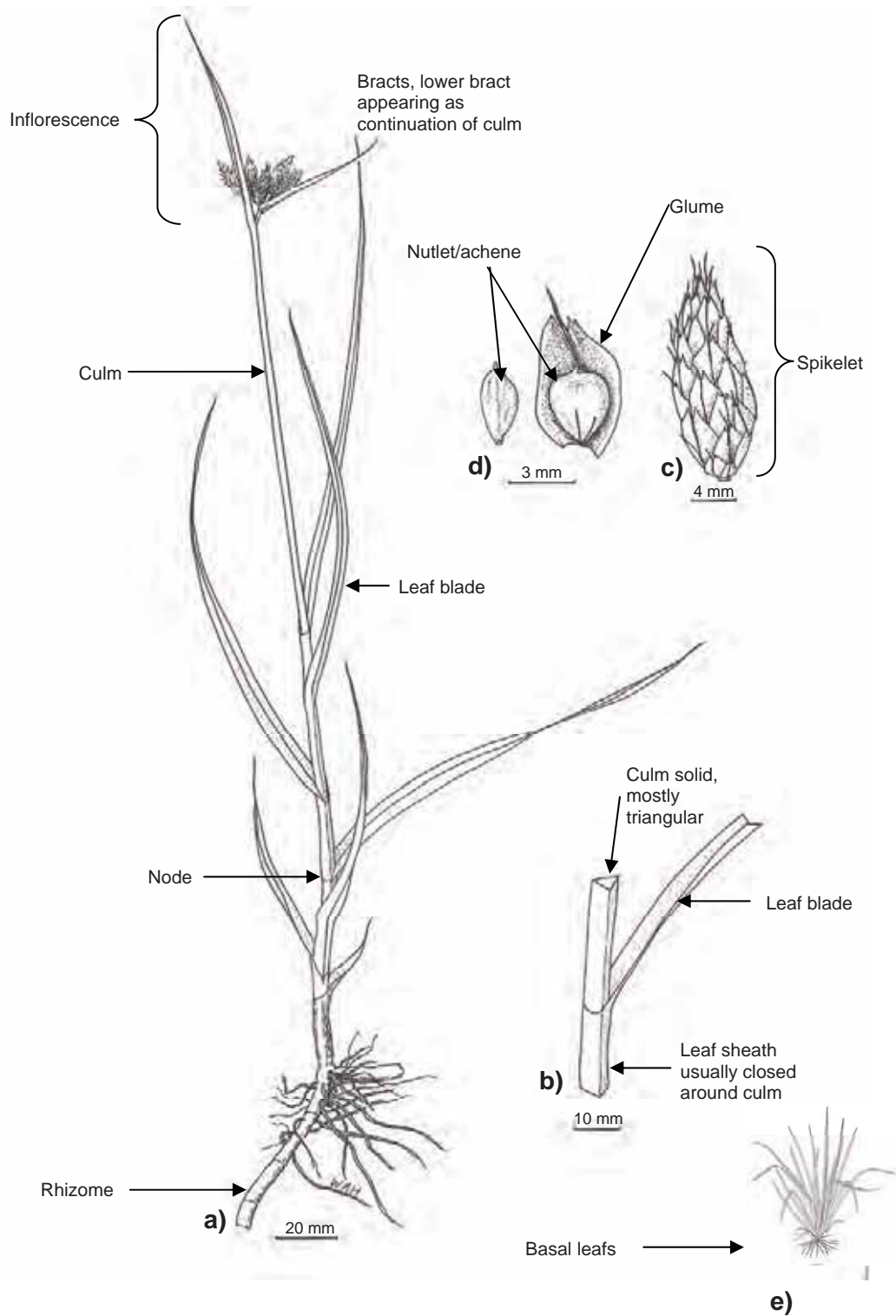
This Chapter is divided into the different family groups according to the colour coded bars on the side of the pages. These groups and colour coding are as follows:

*Cyperaceae* (■),  
*Eriocaulaceae* (■),  
*Juncaceae* (■),  
*Poaceae* (■),  
*Prioniaceae* (■),  
*Restionaceae* (■),  
*Typhaceae* (■), and  
*Xiridaceae* (■).

At the start of each Family there is a short discussion on the family distribution, characteristics, habitat and other general information. These are explained by line illustrations that will guide you in the different important characteristics of each plant family and thus plants in that family. This will assist you, the reader, as similar plant parts may be slightly differently named from family to family.

The inflorescence's form is described for each plant, especially in the *Poaceae* (grasses) where it is important in the identification.

Due to the unavailability of photographs for all the species that we wanted to include in this field guide, the plants for which no photographs could be found are described, distribution maps included, habitat types and flowering time are shown. This is to remind the reader that there may be similar plants which are not shown photographically in the guide, which can be found within the borders of South Africa, and which may be included in future publications.



Line illustrations of a *Bolboschoenus maritimus* plant, showing a) The typical parts of the plants of the *Cyperaceae*, b) Triangular culm showing the leaf sheath and leaf blade, c) The spikelet of the inflorescence, d) The floret with glume and position of the nutlet and, e) basal leaves that are often found in other species of the *Cyperaceae*. The scale bars give an indication of the size of this specific plant.

# CYPERACEAE (SEDGES)

There are ± 5000 species worldwide of which ± 400 species occur in South Africa.

## Distribution

The species are found throughout South Africa in the WC, EC, FS, KZN, MP, LP, NW, GA and NC; also in Botswana, Lesotho, Namibia and Swaziland.



## Descriptive characteristics

The plants are annual or perennial herbs and occasionally woody. **The leaves, if present, have closed sheaths (rarely split) around the mostly 3-angled culm, when young;** the leaves are with or without ligules and the blades are grass-like. Culms can also be rounded or flat. The **inflorescence** is subtended by bracts of which the lower one is extended and appears leaf-like or culm-like. The **florets** can be bi-sexual or unisexual; but florets usually on the same plant when unisexual. The bracts subtending a floret are called fertile bracts. **Stamens** can be 1-8. The **ovary** is 1-chambered, sometimes enclosed in a more or less sheathing bract or utricle as found in the *Carex* spp. The **fruit** is nut-like, sessile or seated on a disc.

## Habitat

The *Cyperaceae* is found in a wide variety of habitats but the species discussed in this Field Guide are mostly obligate wetland plants and are found primarily in very wet conditions.

## Notes

The sedges are grass-like plants. It is a formidable task to identify sedges, as many of them look so similar. If the key to distinguish between the sedges and the other grass-like plants that are shown in this field guide is used, we hope that this daunting task will assist more sedge enthusiasts to distinguish between these plants.

This section is divided in alphabetical order according to the different genera. Each genus has a short description on the distribution, characteristics, habitat and any other general information. This will assist in identifying the species more accurately. No inflorescence form has been included in this section, as the nuts (seeds) are the parts of the plant that are used by plant taxonomists/specialists to finally and accurately identify these plants. To be able to identify these, a stereo microscope is essential as well as experience and knowledge to identify the plant correctly. Keep in mind that when in doubt about the plant, it should be collected, roots, plant, flowers and seed (if possible), pressed, and then identified by a specialist. For the proper collection techniques consult Chapter 6, and if possible purchase the excellent manual by Lyn Fish (1999) which is available from the National Herbaria, e.g. in Pretoria or Kirstenbosch.

Most of the sedges are obligate wetland plants, and prefer wet growing conditions. However, there are also a number of the sedges that are found in drier conditions. Care should therefore be taken when collecting and identifying the plants, as this guide is primarily focusing on obligate wetland plants (plants that prefer almost permanent wet conditions and that are adapted to grow under anaerobic (little oxygen in rooting medium or soil) conditions. Included at the back of the guide there are photographs of a number of sedges that are often found in an aquatic or wetland area, but which are not true obligate wetland plants.

## *Abildgaardia* Vahl.

There are  $\pm$  10 species worldwide of which 3 species occur in South Africa.

### Distribution

The genus is reported from EC, KZN, FS, MP, LP, NW, GA and Botswana.

### Descriptive characteristics

**Plants** are tufted, short, leafy perennials. **Culms** are slender, 3-angled, nude and nodeless between basal tuft and inflorescence. The **leaves** are sometimes reduced or bladeless. The **inflorescence** is a solitary spikelet (rarely twinned). (*A. ovata* spikelet green; *A. hygrophila* spikelet brown) or the terminal spikelet accompanied by 1-3 on short spreading branches (*A. triflora* spikelets orange-brown). **Spikelets:** Flattened basally (2-rank becoming cylindrical above (3-ranked), but overlapping so the ranking is not clear). **Style branches:** 3. **Fruit:** Nutlet with swollen head and narrow to 3-angled, warty, transversely ridged or almost smooth, white or pale brown.

### Habitat

The plants are found in saturated to damp grassland fringing water bodies, or in wet to damp local depressions.

### Notes

*A. ovata* is widespread and abundant, especially noticeable in spring and summer. Late in the season the short culms have elongated to  $\pm$  0.5 m (a mechanism for nutlet distribution) so plants become inconspicuous amongst grasses. *A. hygrophila* is found in coastal grassland, not at higher altitudes. *A. triflora* favours more tropical conditions than the other two species. The latter is not common but is found occasionally along the eastern South African coast from St. Lucia northwards.





***Abildgaardia hygrophila*** (Gordon-Gray) Lye  
(CYPERACEAE)

**Synonyms:** *Fimbristylis hygrophila* Gordon-Gray

**Measurements**

Culm height: 0.10-0.50 m  
Leaf length: 120 mm  
Leaf width: 2 mm  
Inflorescence: ± 23 mm  
Spikelet length: 10-22 mm  
Nutlet length: 1.2-1.4 mm

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Perennial, short, tufted grass-like plant. **Culms:** Slender and nodeless. **Leaves:** Leaf ear-shaped; bases have long woolly hairs. **Inflorescence:** Usually a single terminal spikelet, occasionally twinned. **Flowers:** 1-4 spikelets, flattened with brown glumes (not always clearly 2-ranked, becoming spirally arranged above. **Fruit:** The nutlets are pear-shaped with scattered tubercles (warts) transversely ridged or smooth with 3 stigmas. **Altitude:** 1-655 m. **Wetland type:** Palustrine. **Habitat:** Sandy, black, organically rich, turf soil of vlei areas or wet, marshy grasslands. **Distribution:** EC, KZN, FS, MP, NW and GA; also Botswana. **General:** Indigenous.

**Origin:** *Abildgaardia* = Named after the veterinarian Peder Abildgaard (1740-1801); *hygro* = damp; *phila* = loving.



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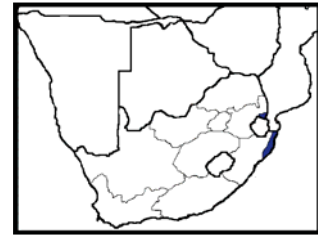


### Measurements

Culm height: 0.23-0.75 m  
Leaf length: ± 400 mm  
Leaf width: 1-2 mm  
Inflorescence: ± 55 mm  
Bract length: ± 2 mm  
Spikelet length: 11-22 mm  
Nutlet length: 2.3-3.1 mm

## *Abildgaardia triflora* (L.) Abeyw. (CYPERACEAE)

**Synonyms:** *Cyperus triflorus* L.; *Fimbristylis triflora* (L.) K.Schum.; *Fimbristylis tristachya* (Vahl) Thwaites



Perennial, grass-like plant, between 0.23-0.75 m high. **Culms:** Solid. **Leaves:** Dark brown to black leaf bases; sheath mouth truncate. **Inflorescence:** Flower cluster of 2-4 branches with spikelets. **Flowers:** Green or brownish green spikelets, basally flattened, usually 3 spikelets. **Fruit:** Broadly obovate to markedly pyriform, apex projecting. **Altitude:** 5-300 m. **Habitat:** Growing in vleis, swamps and seasonally inundated flats and salt marshes. Can tolerate brackish water. **Distribution:** Found in the northern parts of the KZN coastal belt. **General:** Known from Tanzania, Kenya and FSA region. **Similar species:** *A. ovata*, which have a single green spikelet.

**Origin:** *Abildgaardia* = Named after the veterinarian Peder Abildgaard (1740-1801); *triflorus* = three-flowered

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## *Alinula* J. Raynal

There are 4 species worldwide which occur in Africa and Madagascar. Only one species in South Africa, namely *Alinula paradoxa*.

### Distribution

The genus is reported from KZN, MP and LP.

### Descriptive characteristics

**Plants** are dwarf annual, leaf-bearing herbs that form slender tufts that are easily overlooked. **Culms** are slender. **Leaves** are few and basal. **Inflorescence** of numerous, short-stalked spikelets radiating around the single spikelet that terminates a flowering stem (culm); bracts several, slender as long as, or longer than spikelet stalks. **Spikelets** dark coloured at maturity. **Style** 3. **Fruit** is a nutlet that is oval with distinctive minute little knobs.

### Habitat

The plants are found in moist soil adjacent to a water source, usually a temporary pan among rocks in a localised area, or in moist moss mats in shallow soil overlaying rock.

### Notes

Uncommon in South Africa, perhaps overlooked because of short growing period. The inflorescence resembles some species of *Fimbristylis*.

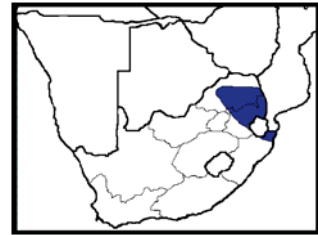


### Measurements

Culm height: 0.05-0.30 m  
Leaf length: NA  
Leaf width: NA  
Inflorescence: NA  
Bract length: 0.6 mm  
Spikelet length: 1-4 mm  
Nutlet length: 1 mm

## *Alinula paradoxa* (Cherm.) Goetgh. & Vorster (CYPERACEAE)

**Synonyms:** *Cyperus subparadoxus* Kük.;  
*Lipocarpha paradoxa* Cherm.; *Mariscus paradoxus*  
(Cherm.) Cherm.



Dwarf, tufted, annual, grass-like plant. **Culms:** Slender. **Leaves:** Few basal leaves. **Inflorescence:** Open, conspicuously (bis) anthelate. **Flowers:** Spikelets have rachilla present, spherical to ovoid, dark reddish brown with numerous, densely, spirally set bracts. **Fruit:** Narrowly ellipsoid, slightly curved and reddish brown nutlet. **Altitude:** 80-1000 m. **Habitat:** In moist soil adjacent to water. **Distribution:** MP, LP and GA. **General:** Widespread in tropical Africa from Mali and Sierra Leone to Ethiopia, extending to FSA region. Indigenous. **Similar species:** None

**Origin:** *Alinula* = Named after Aline Marie Raynal, wife of the famous French cyperologist Jean Raynal; *paradoxus* = unexpected.

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## *Ascolepis* Nees ex Steud.

There are ± 30 species worldwide. Only one species are found in South Africa, namely *Ascolepis capensis*

### **Distribution**

The genus is reported from EC, FS, KZN, MP, LP, NW and GA.

### **Descriptive characteristics**

**Plants** are perennial herbs, usually slender, erect; easily recognized by the neat, compact, hemispherical, white inflorescence that is terminal on a slender, nodeless **culm**. The **leaves** are basal slender and almost bristle-like. The **inflorescence** is enveloped by the expanded bases of the 2 or 3 bluish-green bracts. The bracts terminate in long, thin apices that radiate at 90° from the inflorescence or droop downwards.

### **Habitat**

Permanently wet vlei land, usually with permanent shallow moving water.

### **Notes**

Plants are quite well represented. Other species are more tropical.



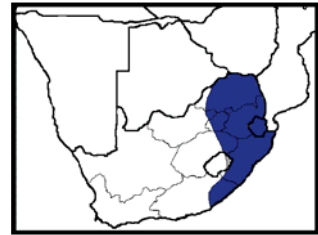
### Measurements

Culm height: 0.12-0.91 m  
Leaf length: 6-50 mm  
Leaf width: ± 32 mm  
Inflorescence: ± 15 mm  
Bract length: ± 50 mm  
Spikelet length: NA  
Nutlet length: NA

## *Ascolepis capensis* (Kunth) Ridl. (CYPERACEAE)

(Sw: Umuzi)

**Synonyms:** *Platylepis capensis* Kunth



Small to medium, slender, tufted, perennial, grass-like sedge. **Culms:** Slender, nodeless; not really triangular. **Leaves:** Green, basal, tufted, grass-like. **Inflorescence:** Neat, compact, snow-white, hemispherical and terminal. **Flowers:** Spikelets in compact, shiny, white head, ± 15 mm diam, bracts ± 50 mm; white or straw-coloured. **Nut:** Sessile, small scale with elongated, flattened beaks, holding nuts in hollows or pockets near their bases. **Altitude:** 5-2250 m. **Habitat:** In wet, sandy, organically rich peat soil in seepage areas or along edge of streams. **Distribution:** EC, KZN, FS, MP, LP, NW and GA; also in Lesotho, Swaziland north to Ethiopia. **General:** Common in Africa. Indigenous. Used for beer stainers, and mats. **Similar species:** *Kyalinga alba*, and *Mariscus dubius*.

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**Origin:** *Ascolepis* = From the Greek word *asco-* meaning tube or utricle, and *-lepis* meaning scale: the glumes are fused along their margins to form a flattened or rounded tube; *capensis* = from the Cape of Good Hope in South Africa



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## *Bolboschoenus* (Asch.) Palla

There are ± 11 species worldwide. Two species are found in South Africa.

### Distribution

*Bolboschoenus maritimus* is reported from the coast of northern, western and south-western Cape Province. *Bolboschoenus glaucus* is reported from the coast of KZN and the low altitudes of FS, MP, NW and GA.

### Descriptive characteristics

**Plants** are tall to medium-sized, leaf-bearing, rather rough textured perennials; usually in dense stands in permanent water, or fringing water lines. **Culms** noded and triangular. **Leaves** well developed. **Inflorescences** of many, to few, to solitary spikelets with 1-3 bracts exceeding the inflorescence, or not. **Glumes** with scattered hairs and toothed apical margins.

### Habitat

*Bolboschoenus maritimus* is found along the sea-coast and fringing inlets where water is saline and its levels are fluctuating. *Bolboschoenus glaucus* is found in fresh water (glycophyte) fringing inlets, lakes, low-lying depressions and occasionally semi-permanent pans, where warm temperate to hot temperatures dominate.

### Notes

Both species are rhizomatous. The underground organs are able to persist for several years even without aerial vegetative parts. Flowering shoots are relished by cattle, other feral and some of the larger indigenous animals. High temperatures promote flowering.



### Measurements

Culm height: 0.30-1.50 m  
Leaf length: 600 mm  
Leaf width: 1-10 mm  
Inflorescence: 42-65 mm  
Spikelet length: 1.2-8.5 mm  
Nutlet length: 2.4-3.3 mm

## *Bolboschoenus glaucus* (Lam.)

S.G.Sm.  
(CYPERACEAE)

(A: Snygras)

**Synonyms:** *Scirpus glaucus* Lam.



Medium to tall, perennial grass-like plant. **Culms:** Usually smooth, 4-8 mm thick at the middle. **Leaves:** Sheaths long V-shaped without projecting tongue; blades well developed, smooth or nearly so. **Inflorescence:** Simple or compound with 2-14 rays, or compound with branched primary rays, with 16-62 spikelets. **Flowers:** Spikelets many-flowered, oblong with age; 3-5 mm diameter, golden to dark brown; glumes tightly overlapping, oblong to elliptic, 1.5-2 mm long awn, 4-6 perianth bristles. **Fruit:** Nuts weakly 3-sided with one side flattened and smooth; light to dark brown. **Altitude:** 1-1200 m. **Habitat:** In shallow water or mud at the water's edge of dams, swamps or streams. **Distribution:** LP, NW, FS, KZN and NC; also in Botswana and Namibia. **General:** Indigenous species found in the warmer parts of the Old Worlds, America and widespread in Africa from Morocco to South Africa. It can tolerate brackish water. **Similar species:** *B. maritimus*.

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**Origin:** *Bolbo* = a bulb; *schoinos* = a rush or a reed; *glaucus* = bluish-white or silvery



CJC ©



CJW ©



CJW ©



CJW ©



***Bolboschoenus maritimus*** (L.) Palla  
(CYPERACEAE)

(E: Alkali bulrush, slat-marsh sedge; A: Snygras, snyruigte)

**Synonyms:** *Scirpus maritimus* L.

**Measurements**

Culm height: 0.45-1.75 m  
 Leaf length: NA  
 Leaf width: 5-8 mm  
 Inflorescence: 15-55 mm  
 Bract length: ± 50 mm  
 Spikelet length: 14-44 mm  
 Nutlet length: 2.7-3.0 mm

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Underground creeping, perennial sedge. **Culms:** Sharply triangular, smooth, 5-10 mm thick with swellings at base. **Leaves:** Emerald-green, flat, midrib distinct, strongly keeled below and serrated. **Inflorescence:** Compound flower cluster of spikelets on very unequal branches, held below the tip of the culm. **Flowers:** Distinctly golden and arranged in groups that stand above the plant; perianth segments of 6 backward pointing, rough bristles, frequently of unequal size. **Fruit:** Shiny, brown, tear shaped fruit with one nutlet. **Altitude:** 0-640 m. **Habitat:** Found in wet, organically enriched sandy soil substrate of vleis or pan margins. **Distribution:** WC, EC, KZN, LP, GA and NW; also Namibia. **General:** Widespread in northern hemisphere and throughout Africa, southwards to FSA region. Indigenous. Used for ethnomedicinal purposes. **Similar species:** *Scirpus nobilis*, which are found in Namibia.



**Origin:** Greek: *Bolbos* = a bulb; *schoinos* = a rush or reed; *maritimus* = growing by the sea





## *Bulbostylis* Kunth. Ex Clark

There are ± 100 species worldwide. 15 species are found in South Africa.

### Distribution

Reported from EC, FS, KZN, MP, LP, NW, GA and Namibia.

### Descriptive characteristics

**Plants** are perennial, tufted, or more slender annual herbs usually not exceeding 0.5 m in height. **Culms** are slender and sometimes hairy. **Leaves** are basal, narrow to very fine and hair-like, usually with a tuft of pallid hairs at the mouth of the leaf-sheath ( this is reduced in *B. schoenoides*), sometimes breaking away on drying. **Inflorescences** are variable, even on individual plants; several to single or no stalked spikelets surrounding the single spikelet that terminates a flowering stem; or all **spikelets** sessile, forming a single head; or with additional stalked heads. The bracts are evident or reduced. When the floral scales are removed, the **fruit** is 3-angled, crowned by a persistent (occasionally less so) round, flattened style base.

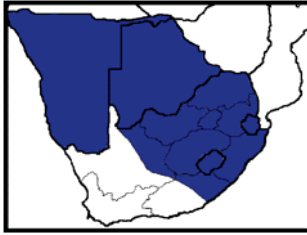
### Habitat

*Bulbostylis* is a dry-land, mostly grassveld genus; only a few species are obligate wetland plants.

### Notes

*Bulbostylis densa* subsp. *afromontana* is widespread, but never conspicuous and grows in shade on eroded faces of river and streamlet banks. *B. humilis* is a short, leafy, tufted weed with flattened 2-angled nutlets and 2 style branches (sometimes 3-angled nutlets and 3-branched styles). It is occasional in wet moss mats, overlying depressions among the rocks. *B. hispidula* is a weed of damp, disturbed sand.





***Bulbostylis hispidula*** (Vahl) R.W. Haines

subsp. ***pyriformis*** (Lye) R.W. Haines  
(CYPERACEAE)

(E: Slender sedge; A: Fynbiesie)

**Synonyms:** *Abildgaardia hispidula* (Vahl) Lye var. *pyriformis* Lye; *Fimbristylis exilis* in sense of authors,

not of (Kunth) Roem. & Schult.; *Fimbristylis hispidula* in sense of Germishuizen & Meyer, not of (Vahl) Kunth; *Scirpus hispidulus* in sense of Germishuizen & Meyer, not of Vahl

**Measurements**

Culm height: 0.06-0.49 m  
Leaf length: 50-150 mm  
Leaf width: 0.2 mm  
Bract length: 5-15 mm  
Spikelet length: 4-8 mm  
Nutlet length: ±1.3 mm

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Slender, annual grass-like plant. **Culms:** Ribbed and sometimes hairy. **Leaves:** Leaf sheaths straw-coloured and hairy at lower leaves; leaves well-developed, wiry and hairy. **Inflorescence:** Varies from simple flower cluster to recurved branches with solitary spikelets to 2-3 spikelets. **Flowers:** Up to 7 spikelets; glumes ovate, dark to pale brown with green or fawn keel; ciliate margin. **Fruit:** Single, pear-shaped, white to light brown nutlet. **Altitude:** 10-1890 m. **Habitat:** Seasonal high water table grasslands, aluvial soils and sand or edge of reed swamps. **Distribution:** Found throughout SA, also in Botswana, Namibia and Swaziland. **General:** Indigenous species known from Angola, Mozambique and occurs as a weed in cultivated fields, rice-fields, roadsides and lake fringes.



**Origin:** *Bulbo* = swollen; *stylosus* = with a conspicuous or large style; *hispidus* = shaggy or rough



#### Measurements

Culm height: 0.15-0.40 m  
Leaf length: 50-270 mm  
Leaf width: 0.5-1.0 mm  
Bract length: NA  
Spikelet length: 3.2-6.4 mm  
Nutlet length: NA

## *Bulbostylis schoenoides* (Kunth)

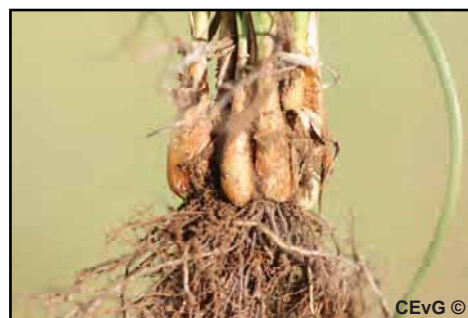
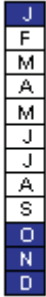
C.B. Clarke  
(CYPERACEAE)

**Synonyms:** *Abildgaardia erratica* (Hook.) Lye  
*subsp. schoenoides* (Kunth) Lye; *Isolepis schoenoides* Kunth



Tufted, perennial grass-like plants; with a woody rhizome. **Culms:** Long, slender, and carry hemispherical heads. **Leaves:** Fine, channelled leaves; minutely rough on the margins and encased in soft brown persistent sheaths. **Inflorescence:** 4-6 Large sessile spikelets. **Flowers:** Mid-brown, dark-greyish brown or reddish black, with spiral glumes. **Fruit:** Nutlet. **Altitude:** 100-2650 m. **Habitat:** Favours wet to damp situations in vlei to semi-vlei grasslands and often where small exposed pools exist on rock surfaces. **Distribution:** Found in EC, KZN, MP, LP, NW and GA; also found in Lesotho. **General:** Part of a sub-Saharan African complex. **Similar species:** None.

**Origin:** *Bulbo* = swollen; *stylosus* = with a conspicuous or large style; *schoinos* = like a rush



## CAREX L.

There are ± 2000 species worldwide which are found mostly in the northern hemisphere. Approximately 14 species are found in South Africa, primarily at higher altitudes.

### Distribution

These species are reported from the WC, EC, FS, KZN, MP, LP, NW, GA and NC.

### Descriptive characteristics

The **plants** are tufted or rhizomatous, leafy perennials. The **culms** are triangular. The **leaves** are many and long. This genus has female and male spikelets, separated on one **inflorescence**. Thus a spike may bear female or male or both sexes on one inflorescence. Identification to genus is straightforward for the plants with cylindrical brush-like spikes (tussels) that dangle from slender branches; usually in a line along the flowering stem. Each spike consists of closely packed small green, cream or brown, **spikelets**. These spikelets are the female units, each encased in a protective cover (the utricle), which is bottle-shaped, rounded or flattened with a narrowed neck and double pointed mouth, through which the 3- or 2- branched style extrudes. The male branches (or branch) are set above the female inflorescences and are different in form and colour. The male spikelets break up as soon as the pollen has been shed, and can be overlooked. *C. cognata*, *C. austro-africana* are examples with tasselled inflorescences. Other species (e.g. *C. acutiformis*) has erect spikes that do not dangle, while *C. glomerabilis* has a single dense pseudo-spike usually 30-50 mm long and that terminates on a nodeless stem.

### Habitat

Conditions are variable; most species, especially those with the tasselled inflorescences fringe small streamlets that flow through forest or bush clumps, where permanent, oxygenated water moves slowly, or water-saturated humic soils. *C. acutiformis* is a robust perennial that forms dense stands and is frequent and widely distributed. *C. cognata* also have a wide distribution; but the tasselled species grows in open sunny situations, following water lines, providing wet to damp soils. *C. glomerabilis* is occasionally in permanent water marginal to *Typha* (bulrush) reed beds; also in damp to dryish rough grassland, or bordering vlei margins. It has a more extensive distribution in northern and western, rather than eastern South Africa.

### Notes

*Carex* is the dominant sedge genus of the northern hemisphere. *Carex acutiformis* may be alien but naturalised; however this is difficult to prove.



### Measurements

Culm height: 0.45-0.80 m  
Leaf length: ± 550 mm  
Leaf width: 4-10 mm  
Inflorescence: 130-400 mm  
Bract length: 140-570 mm  
Spikelet length: 0-50 mm  
Nutlet length: 1.7-2.0 mm

## *Carex acutiformis* Ehrhart. (CYPERACEAE)

(E: Lesser pond-sedge)

Synonyms: —



Medium, robust, tufted, perennial, grass-like plant; with short rhizomes or stolons between tufts. **Culms:** Sharply 3-angled, rough above. **Leaves:** Sheaths reddish- to greyish-brown, entire, leaf blades flat or sometimes folded; tapering to an acute tip. **Inflorescence:** Simple spike to much branched panicle. **Flowers:** Male and female flowers. Female glumes elongate-lanceolate. **Fruit:** Obovoid, sharply 3-angled seeds; sack or bottle-like sheath (utricle) surrounding the nut without a beak; consistently with 2 stigmas. **Altitude:** Known to grow up to 2440 m. **Habitat:** Usually rooted in water, often forming dense stands along the margins of streams, sometimes in shaded forests. **Distribution:** Found in WC, EC, KZN, FS, MP, NW and GA; also in Lesotho. **General:** Widely distributed in warm and temperate regions of N. America, Europe and Africa. Considered to be introduced in Africa but its distribution follows bird migration routes, so it may well be native. Sometimes used for bedding and waterproofing.

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**Origin:** *Carex* = sedge; *acutiformis* = in the shape of a point



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**Carex austro-africana** (Kükenthal.)

Raymond  
(CYPERACEAE)

(E: Rush; A: Biesie)

**Synonyms:** *C. cernua* Boott var. *austro-africana*  
Kük.

**Measurements**

Culm height: 0.25-0.60 m  
Leaf length: 150-1000 mm  
Leaf width: 3-8 mm  
Inflorescence: 50-310 mm  
Bract length: 150-380 mm  
Spikelet length: 25-70 mm  
Nutlet length: 1.9-2.2 mm

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Short, with underground-creeping rhizome, perennial, grass-like plant. **Culms:** Loosely tufted, sharply 3-angled. **Leaves:** Sheaths rusty to yellow brown; blades folded, with recurved margins; scaly and rough to the touch; tapering to a sharp tip. **Inflorescence:** Drooping raceme of spikes, 5-6 per stem, lower bract leaf-like; terminal spikelet male, light brown; lateral spikelets female. **Flowers:** Male and female spikelets; cylindric. **Fruit:** Nuts flattened almost circular in outline, not clawed, minutely papilose. **Altitude:** 610-2225 m. **Habitat:** Wet areas, often in shallow, slow moving water along the edge of vleis or streams. Occasionally fringing *Typha* (Bulrush) beds in deeper water. **Distribution:** Found in EC, KZN, MP, LP and GA; also in Lesotho and Swaziland. **General:** Endemic to southern Africa.

**Origin:** *Carex* = Sedge; *austro* = Southern; *africana* = From Africa



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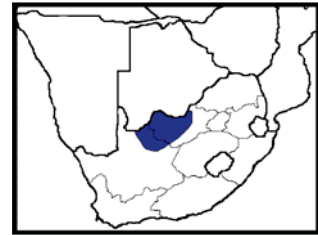


**Measurements**

Culm height: 0.35-0.45 m  
Leaf length: 200-210 mm  
Leaf width: 4-5 mm  
Inflorescence: 80-440 mm  
Bract length: ±220 mm  
Spikelet length: 10-25 mm  
Nutlet length: 2.0-2.4 mm

***Carex burchelliana*** Boeck.  
(CYPERACEAE)

**Synonyms:** —

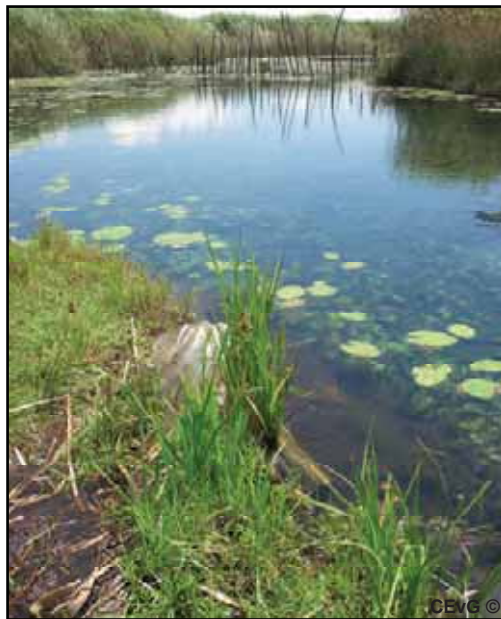


Small, tufted, perennial, grass-like plant. **Culms:** Tri-angular. **Leaves:** Mid-green, not glaucous. **Inflorescence:** Raceme of spikes with 3-5 spikes. **Flowers:** Smooth spikelets; ciliate on distal margin. **Fruit:** Obovate, narrowly clawed and triangular in cross-section. **Altitude:** ≤1500 m. **Habitat:** Waterlogged marshy areas on dolomite-derived stratum. **Distribution:** Found in NW and NC. **General:** Indigenous. **Similar species:** None.



**Origin:** *Carex* = sedge; *burchellia* = Named after William John Burchell, 19th century English explorer in Africa

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***Carex clavata*** Thunb.  
(CYPERACEAE)

**Synonyms:** —

**Measurements**

Culm height: 0.40-1.70 m  
 Leaf length: 300-500 mm  
 Leaf width: 6-11 mm  
 Inflorescence: 115-650 mm  
 Bract length: 110-350 mm  
 Spikelet length: 30-100 mm  
 Nutlet length: 2.8-3.5 mm

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Medium to large, underground-creeping, perennial grass-like plant. **Culms:** Loosely tufted, 3-angled at the top; rough. **Leaves:** Pale bluish-yellow green, leathery, smooth or slightly rough; gradually tapering to a sharp tip; blades flat or folded; sheath pale brown. **Inflorescence:** 4-6 spikelets with the lower one further apart and sub-erect. **Flowers:** Light brown, cylindrical spikelets, Male terminal with female spikelets separate. Female spikelets pale reddish-brown. **Fruit:** Nuts 3-angled, broadly egg-shaped; 2.5 mm wide; dark brown with 3 pale longitudinal ribs. **Altitude:** 5-610 m. **Habitat:** Coastal, marshy areas, swamps, and seasonally flooded areas. **Distribution:** WC, EC and KZN. **General:** Endemic to the FSA region.



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**Origin:** *Carex* = sedge; *clavatus* = club-shaped





### Measurements

Culm height: 0.10-0.75 m  
Leaf length: 130-300 mm  
Leaf width: 2.5-9.0 mm  
Inflorescence: 5-15 mm  
Bract length: 10-140 mm  
Spikelet length: 30-50 mm  
Nutlet length: 1.7-2.2 mm

## *Carex glomerabilis* Krecz. (CYPERACEAE)

(E: Foxtail sedge)

**Synonyms:** *C. glomerata* Thunb., illegitimate name; *C. leribensis* Nelmes; *C. schlechteri* Nelmes; *C. vulpina* in sense of C.B. Clarke, not of L.



Small to medium sized, robust, tufted, perennial grass-like plant. **Culms:** Triangular without nodes between base and inflorescence. **Leaves:** Yellowish green with tubular leaf sheaths. **Inflorescence:** Single dense straw-coloured to mid-brown pseudospike, bract bristle-like. **Flowers:** Yellowish green; turning dark brown with age. **Fruit:** Square, broadly clawed nutlet. **Altitude:** 5-3050 m. **Habitat:** Forms stands in damp grasslands or along edge of vleis that abut on water. Occasionally in permanent water on fringes of *Typha* beds. **Distribution:** WC, EC, FS, KZN, MP, LP and GA. **General:** Indigenous. **Similar species:** None.

**Origin:** *Carex* = sedge; *glomeratus* = clustered in a head

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**Carex cognata** Kunth  
(CYPERACEAE)

(E: Nodding sedge; A: Knikkenderietgras)

**Synonyms:** *C. cognata* Kunth var. *drakensbergensis* (C.B.Clarke) Kük.; *C. drakensbergensis* C.B.Clarke

**Measurements**

Culm height: 0.35-0.80 m  
Leaf length: 230-680 mm  
Leaf width: 6-8 mm  
Inflorescence: 115-195 mm  
Bract length: 300-500 mm  
Spikelet length: 20-70 mm  
Nutlet length: 1.7-2.8 mm

Small to medium, tufted, perennial, grass-like plant;. **Culms:** Sharply triangular; internodes of equal length. **Leaves:** Yellow-green with conspicuous transverse venation, especially when dry; folded basal leaf sheaths. **Inflorescence:** Raceme of spikes clustered towards apex of culm. **Flowers:** Green spikelets. **Fruit:** Evenly inflated; not clawed; triangular and minutely papillose. **Altitude:** 10-2000 m. **Habitat:** Occurs in open vleis or along the edge of rivers where the underground organs are kept permanently wet. **Distribution:** Occurs sporadically from the EC, FS, KZN, MP, LP, NW and GA; also in Botswana and Namibia. **General:** Indigenous species found from Tanzania southwards to the FSA region.

**Origin:** *Carex* = sedge; *cognatus* = related



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**Carex killickii** Nelmes  
(CYPERACEAE)

**Synonyms:** —

**Measurements**

Culm height: 0.14 m  
Leaf length: NA  
Leaf width: < 1 mm  
Inflorescence: ± 15 mm  
Bract length: ± 50 mm  
Spikelet length: 6-10 mm  
Nutlet length: NA

Very small, loosely tufted perennial. **Culms:** Erect or curved, compressed triangular and smooth. **Leaves:** Basal and subbasal; usually shorter than the culm, sometimes exceeding the culm. **Inflorescence:** Oblong cylindrical or oblong elliptic single spike; bract as long as or 3 times as long as the spike. **Flowers:** Male and female spikelets each about 2-3 flowered. **Fruit:** Nutlet on rachilla. **Altitude:** To 3230 m. **Habitat:** Found along the margins of bogs or sedge meadows in Alpine grassland. **Distribution:** EC, FS; also in Lesotho. **General:** Endemic. **Similar species:** None in South Africa.

**Origin:** *Carex* = sedge; *killickii* = Named after the collector, Mr Killick



#### Measurements

Culm height: 0.40-1.40 m  
Leaf length: ± 485 mm  
Leaf width: 12-16 mm  
Inflorescence: 280-560 mm  
Bract length: 120-150 mm  
Spikelet length: 120-185 mm  
Nutlet length: 1.8-2.0 mm

### *Carex mossii* Nelmes (CYPERACEAE)

**Synonyms:** *Carex petitiiana* sensu Kük. ,  
non A.Rich.



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Leafy, tufted, medium-sized perennial. **Culms:** Triangular, with equally spaced internodes. **Leaves:** Dark green, glaucous; sheaths folded. **Inflorescence:** Raceme of spikes; 7-9 peduncled, drooping spikes along the culm. **Flowers:** Elongated spikelets, with 3-branched styles. **Fruit:** Blackish, obovate or elliptic, triangular and narrowly clawed nutlet. **Altitude:** 515-1550 m. **Habitat:** Waterlogged areas along streams in forests on clay or loam soils. **Distribution:** EC, KZN, MP and LP; also from Lesotho. **General:** Endemic to South Africa. **Similar species:** *C. bequartii*, which have spikelet bracts conspicuously awned.

**Origin:** *Carex* = sedge; *mossii* = Possibly named after CE Moss who collected a specimen at Hogsback, Eastern Cape in 1927.

#### Measurements

Culm height: 0.30- 0.90 m  
Leaf length: ± 220 mm  
Leaf width: 6-10 mm  
Inflorescence: 65-110 mm  
Bract length: 60-165 mm  
Spikelet length: 20-40 mm  
Nutlet length: 2.2-2.8 mm

### *Carex subinflata* Nelmes (CYPERACEAE)

**Synonyms:** —



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Small to medium, tufted, perennial. **Culms:** 3 Angled, rough. **Leaves:** Sheaths pale brown, blades flat or folded, grey bloom on leaves. **Inflorescence:** Grey bloom on the leaves. **Flowers:** Erect to sub-erect separate male and female spikelets; female spikelets 2-4 cm long, ± 8mm diameter; female glumes reddish-brown, 3-5 mm long, shorter than the straw-coloured utricle, with teeth at the tip. **Fruit:** Green to straw-coloured utricle. **Altitude:** Up to 2865 m. **Habitat:** In bogs, seepage areas or along edge of streams at high altitudes. **Distribution:** EC and KZN; also Lesotho. **General:** Endemic vulnerable species that is restricted to the KwaZulu-Natal, Lesotho and Eastern Cape regions of the FSA region. **Similar species:** *C. clavata*, which is a taller plant.

**Origin:** *Carex* = sedge; *sub* = partly; *inflatus* = inflated, blown up, swollen

## *Carpha* Banks & Sol. Ex R. Br.

There are ± 15 species worldwide of which ± 5 species occur in South Africa.

### **Distribution**

The genus is reported from WC, EC, KZN, FS, MP, and LP.

### **Descriptive characteristics**

**Plants** are stoloniferous, leaf-bearing perennials with narrow branched (*C. glomerata*) or solitary terminal (*C. filifolia*) **inflorescence**. *C. glomerata* and *C. schlechteri* look similar; tall plants with triangular noded stems and fairly wide leaves, which are mostly conspicuous above shorter vegetation. There are few (generally not exceeding 3) florets to a spikelet. Anthers are sometimes green towards the end of the growing season. Leaves and stems tend to be yellowish.

### **Habitat**

In South Africa the majority of species occur along the coast, growing in the saturated, slightly saline, sand of dune slacks, mostly south of Durban. *C. filifolia* occurs at high altitude (Drakensberg and foothills) in dark, peaty loam over basalt; quite often in slowly flowing, shallow water.

### **Notes**

Plants of *Carpha* are almost always associated with sandstone or basalt; here they dominate other vegetation.

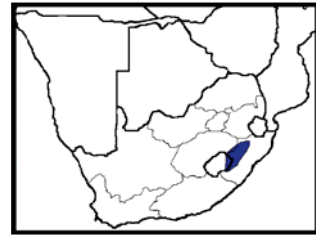


**Measurements**

Culm height: 0.4-0.6 m  
Leaf length: 280-330 mm  
Leaf width: 0.50-0.75 mm  
Inflorescence: NA  
Bract length: NA  
Spikelet length: 8-10 mm  
Nutlet length: 4-5 mm

***Carpha filifolia*** Reid & T.H.Arnold  
(CYPERACEAE)

**Synonyms:** —



**En**



Small to medium, tufted, perennial. **Culms:** Terete and single-noded. **Leaves:** Spirally arranged, filiform leaves; with leaf-like bract at each node; sheath basis shiny, dark brown with raised nerves. **Inflorescence:** Solitary, reduced head, with several bracts. **Flowers:** Lanceolate spikelets with 4-5 golden-brown, green-keeled glumes. **Fruit:** Three-side brown nutlet, with cream-coloured ribs. **Altitude:** Up to 2440 m. **Habitat:** Along streambanks, in marshes or on wet cliffs, always associated with sandstone or basalt at high altitudes. **General:** Endemic species that are restricted to the sandstone and basalt formations of the upper Karoo System in the Drakensberg Mountains.

**Origin:** *Carpha* = Greek for the word karphe meaning dry stick; *filifolus* = thread-leaved

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***Carpha glomerata*** (Thunb.) Nees  
(CYPERACEAE)

(A: Vleibiesie, vleiriet)

**Synonyms:** *Asterochaete glomerata* (Thunb.) ees;  
*Schoenus dactyloides* Vahl; *Schoenus glomeratus*  
Thunb., illegitimate name.

**Measurements**

Culm height: 1.00-3.00 m  
Leaf length: NA  
Leaf width: 15-28 mm  
Inflorescence: 10-40 mm  
Bract length: NA  
Spikelet length: 6-7 mm  
Nutlet length: 2.3-2.6 mm

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Robust, tussock-forming, surface creeping, perennial, sedge. **Culms:** Smooth, triangular, leafy. **Leaves:** Numerous, tough, leathery, sheathing below, with rough margins. **Inflorescence:** Slender panicle, with axillary spikelet clusters. **Flowers:** Golden-brown spikelets; 1-2 mm wide. **Seeds:** Narrowly ellipsoid 3-sided, reddish-brown nut; each with 6 bristles. **Altitude:** 20-1495 m. **Habitat:** Along river margins or in water in pans. One of the tallest sedges, often conspicuous above the shorter vegetation. **Distribution:** WC, EC and KZN. **General:** In the alpine vegetation of Mount Uluguru in Tanzania and FSA region. One of the tallest of KwaZulu-Natal sedges, often conspicuous above shorter vegetation. **Similar species:** *Prionium serratum*, which have sharply serrated leaves.

**Origin:** *Carpha* = Greek for the word karphe meaning dry stick; *glomeratus* = clustered in a head



#### Measurements

Culm height: < 0.40 m  
Leaf length: NA  
Leaf width: 5-8 mm  
Inflorescence: 80-440 mm  
Bract length: NA  
Spikelet length: ± 3 mm  
Nutlet length: 2.3-2.6 mm

### *Carpha schlechteri* C.B. Clarke (CYPERACEAE)

**Synonyms:** *Trianoptelis solitaria* (C.B. Clarke) Pfeiff



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Small, tufted perennial. **Culm:** Slender. **Leaves:** Narrow, flattened and keeled. **Inflorescence:** Lax panicle; axis many noded. **Flowers:** Spikelets golden-brown. **Seed:** **Altitude:** -1370 m. **Habitat:** Slopes near watercourses. **General:** Endemic data deficient specie that is restricted to the Western Cape of South Africa. **Similar species:** *C. glomerata*, which is more robust.



**Origin:** *Carpha* = Greek for the word karphe meaning dry stick; *schlechteri* = Named after Friedrich Richard Rudolf Schlechter, 20th century botanist.

## ***CLADIUM*** P. Browne

There are ± 4 species worldwide. Only one species found in South Africa, which is a subspecies, namely *Cladium mariscus* subsp. *amaicense*.

### **Distribution**

These species are reported from the coasts of the WC, EC, and KZN; but also from MP, LP, NW and GA.

### **Descriptive characteristics**

*Cladium* is a tall, grass-like sedge, generally about 1.5 m in height. When flowering it is conspicuous, because of the masses of brown to dark-brown spikelets of the inflorescences. At other times the plants blend in with the usually associated grasses. Note that the sedge leaves have sharp edges that can cut human skin very easily, hence the common name 'saw grass'.

### **Habitat**

Plants fringe rivers, streams and lakes where water is permanent, slowly moving and well-oxygenated. In parts of South Africa plants are now rare because of habitat modification and destruction. Few stands remain along the KZN coastline due to primarily clearance for the planting of sugar-cane that requires a similar habitat.

### **Notes**

*Cladium mariscus* exhibits pseudo-vivipary, which is a return to vegetative growth before the fruits are mature and disseminated. The genus is cosmopolitan, best known as the dominant sedge of Florida Everglades, low-lying land that is periodically flooded. Apart from the established Reserve, where there is protection for these plants, the extent of the species is now much reduced.





**Measurements**

Culm height: 1.00-6.00 m  
Leaf length: 612-2000 mm  
Leaf width: 6.4-12.7 mm  
Inflorescence: 300-600 mm  
Bract length: NA  
Spikelet length: ± 5 mm  
Nutlet length: 2-3 mm

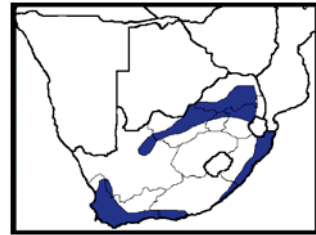
*Cladium mariscus* (L.) Pohl subsp.

*jamaicense* (Crantz) Kük.

(CYPERACEAE)

(E: Saw grass)

**Synonyms:** *C. amaicense* Crant ; *C. mariscus* in sense of C.B.Clarke, not of (L.) Pohl



Large, coarse, leafy, perennial with erect, woody rhizomes. **Culms:** Circular to bluntly 3-angled, leafy, lower part covered in scales. **Leaves:** Basal, 6 cm wide, midrib and margins sharply saw-like. **Inflorescence:** Panicle; bearing up to 1500 spikelets. **Flowers:** Spikelets narrowly lanceolate when young, becoming ovoid to spherical with age; usually all sessile in clusters of 3-15; glumes pale to dark brown. **Fruit:** Ovoid, pale brown nuts, 1.5-2mm wide, pointed towards the tip. **Altitude:** 1-1400 m. **Habitat:** Marshy areas, swamps, along streams and in mesohaline water of upper estuaries. **General:** Almost cosmopolitan in warm and tropical parts of the world. Indigenous. The sharp, cutting margin of the leaves deters grazers. Ethnomedicinal uses. **Similar species:** None.

**Origin:** *Cladus* = branch, shoot; *mariscus* = a type of rush; *amaicense* = from Jamaica

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## *Cyathocoma* Nees

There are ± 3 species worldwide of which all 3 species are endemic to South Africa.

### **Distribution**

The genus is reported from WC, EC and KZN..

### **Descriptive characteristics**

Leafy, tufted, hairless perennials. Culms roundish to obscurely triangular. Nodeless or with 1-3 nodes between basal leaves. Leaves basal with sheaths splitting early; eligulate; blades incurving to almost rolled, margins scabrid tapering to slender flexuous apices; cauline with closed brown or reddish-purple sheaths and reduced blades. Inflorescence paniculate; bract blades shortly surpassing total inflorescence. Flowers: Yellowish brown to dark chestnut red, numerous spikelets.

### **Habitat**

The plants are found in saturated to damp grassland fringing water bodies, or in wet to damp local depressions and on mountain slopes.



**Measurements**

Culm height: 0.30-0.50 m  
Leaf length: < 50 mm  
Leaf width: 1-2 mm  
Inflorescence: 80-440 mm  
Bract length: ± 7 mm  
Spikelet length: 7 mm  
Nutlet length: 1.1-2.5 mm

**Cyathocoma bachmannii** (Kük.)

C.Archer  
(CYPERACEAE)



**Synonyms:** *Tetraria bachmannii* Kük.; *Tetraria thuarii* in sense of C.B.Clarke, not of P.Beauv. var. *gracilior* C.B.Clarke.



**En**



**P**

Small to medium, slender, tufted, leafy, perennial with closely placed shoots. **Culm:** Erect with aerial nodes; slightly flattened, nodeless between basal leaves and inflorescence. **Leaves:** Numerous, radical, spiral leaves with poorly defined sheaths, brown to purplish narrowing into inrolled blades, margins finely scabrid. **Inflorescence:** Narrow, bracteate panicle of 2-7 branches from successive culm nodes with 1 erect leaf-like bract per node which are longer than the inflorescence. **Flowers:** Solitary, golden-brown spikelets with only two florets. **Seed:** Brown to red-brown, obovate, 3-angled with conspicuous hairy beak. **Altitude:** 30-500 m. **Habitat:** Found in wet to damp, heavy black soils on the margins of streamlets or small isolated vleis forming part of a freshwater drainage system. **General:** Endemic to the KZN region.

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**Origin:** *Cyatho* = cup; *comans* = hairy or leafy; *bachmannii* = Collector named Bachmann.





***Cyathocoma ecklonii*** Nees  
(CYPERACEAE)

**Synonyms:** *Macrochaetium ecklonii* ( Nees) Levyns;  
*Tetraria thuarii* in sense of C.B.Clarke, not of  
P.Beauv.

**Measurements**

Culm height: 0.5-1.30 m  
Leaf length: 305-610 mm  
Leaf width: 8.5-12.7 mm  
Inflorescence: 80-440 mm  
Bract length: NA  
Spikelet length: ±8.5 mm  
Nutlet length: NA

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Medium to large, perennial grass-like plant, helophyte. **Culms:** Cylindrical and grooved when dry. **Leaves:** Spirally arranged. **Inflorescence:** Dense panicle with several to few branches. **Flowers:** Yellowish-brown spikelets; 5-6 glumes, medium to firm; spikelet with 1-5 florets. **Fruit:** Ellipsoidal, transversely rippled, nutlet; marked faintly with 3 longitudinal ribs. **Altitude:** 180-1095 m. **Habitat:** Seeps on mountain slopes below 1000 m. **Distribution:** Found in the WC. **General:** Endemic to the FSA region. **Similar species:** None.

**Origin:** *Cyatho* = cup; *comans* = hairy or leafy; *ecklonii* = Named after Dr. Christian Friedrich Ecklon, 19th century German botanist.



En



#### Measurements

Culm height: 0.5-1.50 m  
Leaf length: ± 305 mm  
Leaf width: ± 5 mm  
Inflorescence: 80-440 mm  
Bract length: NA  
Spikelet length: ± 6.4 mm  
Nutlet length: ± 2.1 mm

## *Cyathocoma hexandra* (Nees) Browning (CYPERACEAE)

**Synonyms:** *Macrochaetium dregei* Steud.;  
*Macrochaetium hexandrum* (nees) Pfeiff.



En



Medium to large, perennial, grass-like plant. **Culms:** Cylindrical. **Leaves:** Spirally arranged. **Inflorescence:** Panicle with several branches. **Flowers:** Chestnut to dark brown spikelets with hard glumes. **Fruit:** Ellipsoidal, transversely rippled, nutlet; marked faintly with 3 longitudinal ribs. **Altitude:** 15-850 m. **Habitat:** Marshes and water courses on mountain slopes below 800 m. **Distribution:** Found in the WC. **General:** Endemic to the FSA region. **Similar species:** *C. ecklonii*, with slightly smaller fruit.

**Origin:** *Cyatho* = cup; *comans* = hairy or leafy; *hexandrus* = with six stamens

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## CYPERUS L.

There are between 550 and 600 species worldwide, of which 80-90 species are found in South Africa.

*Cyperus* is the best known and best represented sedge genus in South Africa. It exceeds all others in number of species and in overall abundance.

Some species are weeds of cultivation e.g. *C. esculentus* and *C. rotundus*. They are difficult to eradicate, because of developing slender underground stems (rhizomes) that swell terminally into little edible tubers that resist herbicides (hence they are known as 'nut grasses'). *C. esculentus* has creamy yellow floral scales (glumes) and is known as 'uintjies', yellow nut sedge or water gras. Less frequent is *C. rotundus* known as purple nut sedge, because of the purple in the floral scales as they age.

Some species have long naked, nodeless stems (culms) between the rooted plant base and the terminal tuft or leaves (called bracts because among them the inflorescences (flower branches) are produced. These are the so-called Mop or Umbrella sedges (e.g. *C. involucretes*, *C. textilis*, *C. sexangularis* and *C. prolifer*) that have long been used for the building of temporary shelters. To this present day, these and other species with long, wider, softer bracts (*C. latifolius*) or more flexible, but tough culms (*C. marginatus*) are used in weaving and tying to construct baskets, hats and other artefacts, that are sold for some income.

*C. papyrus* has a long history in the preparation of paper from slices of its culm pith. It is the most robust and tallest of all South African sedges. Its natural distribution is in coastal areas south of Empangeni in KwaZulu-Natal. However, in recent years horticultural fashion has favoured water gardens, so it is now to be found growing luxuriantly under cultivation wherever conditions permit. The mop sedges too are often to be found beyond their natural ranges due to cultivation from which they occasionally escape and become naturalised.

### Descriptive characteristics

Consistent features by which to recognise **C** are:

- Spikelets that are flattened with two lines of floral scales (glumes) arranged to form a flat, or almost flat, plane with 180° between the two lines.
- Floral scales usually, but not always, overlapping one another, partially giving the spikelet margin a smooth (entire) or a saw-toothed (serrate) outline.
- Style branches 3. There are a few exceptions in which the style is unbranched, or with 1 or 2 delicate branches of unequal length, e.g. *C. laevigatus*.
- Nutlets 3-angled, usually, but not always, quite small ranging from 1-5 mm long and wide.

Plants vary from tall, robust, leaf-bearing, rhizomatous perennials, usually growing in permanent water (*C. papyrus*; *C. fastigiatus*), to slender leafy annuals in profuse numbers in temporary pans (*C. iria*), and short tufted, leafy herbs, usually short-lived perennials often mistakenly said to be annual, in shallow, often alluvial soil (*C. rubicundus*). *C. pectinatus* is a rather inconspicuous hydrophyte along the eastern coastline floating in lakes, pans, swamps and probably estuaries; or rooted in the alluvium along the more conspicuous. The arrangement of spikelets within the inflorescence varies from **spicate** (spikelets attached singly towards the top of a branch, but all round the branch to give a brush-like affect) to **digitate** (spikelets attached to the tip of an inflorescence branch, spraying out like the fingers of a hand) to a **head** (spikelets clustered together at the top of the culm and usually surrounded by green leaf-like bracts).

### Habitat

Wherever water is available, either under conditions of permanence or more temporary, **C** spp. may be present. Lakes, estuaries, river and streamlet margins, temporary pans, local depressions in grassland or bushveld are usual locations.

**C** is a tropical genus. In South Africa numbers of species and plant numbers diminish towards the west with its drier climate and winter rainfall. This natural reduction has, however,

become less visible as the result of cultivation and gradual naturalisation.

### Notes

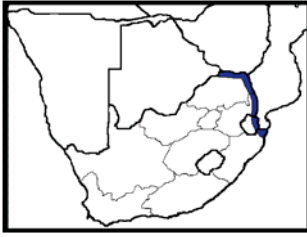
Some other genera resemble *Cyperus* in spikelet form. This can be very confusing in plant identification. Use of a 10 hand lens is helpful in looking for distinguishing features.

*P* differs in style branches which are only 2 and long and delicate. Nutlets are 2-angled with the flat surfaces in the plane of the spikelet.

spikelets are flattened as in *Cyperus* and *Pycneus*, but are usually composed of fewer floral glumes that not always subtend a floret that will produce a fruit. The spikelets are aggregated into a single terminal inflorescence that is a spherical or cylindrical head with or without 2-3 smaller lateral heads.

spp. With spikelets that fall early from the inflorescence leaving basal 1-2 glumes attached to the floral axis. Formerly this genus was not included, but is now part of the genus *Cyperus*.





***Cyperus alopecuroides*** sensu Thunb.  
(CYPERACEAE)

(E: Matt sedge, Foxtail sedge)

**Synonyms:** *Juncellus alopecuroides* (Rottb.)  
*C.B. Clarke*

**Measurements**

Culm height: 0.60-1.80 m  
Leaf length: NA  
Leaf width: 5-15 mm  
Inflorescence: 100-300 mm  
Bract length: NA  
Spikelet length: 2.5-8.0 mm  
Nutlet length: 0.7-0.9 mm

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Tufted, perennial grass-like plant with short semi-erect woody underground rhizomes. **Culms:** Robust, 3-sided above, smooth, 7-12 mm thick; inflated when in water. **Leaves:** Spongy, yellowish to blackish brown sheaths; blades inverted and W-shaped; leathery with rough nerves and margins. **Inflorescence:** Compound panicle with a sessile and few to many stalked clusters of spikes. **Flowers:** Spikes digitate, upright, cylindrical to oblong-cylindrical. **Fruit:** Dorsoventrally flattened nuts or rarely 3-sided; yellow to golden-yellow, smooth or minutely net-like. **Altitude:** Up to 900 m. **Habitat:** Swamps with permanent water or margins of lakes. **Distribution:** Found in KZN and LP; also in Botswana, Namibia and Swaziland. **General:** Indigenous specie found in India, Indo-China, Malaysia, northern Australia and throughout Africa, southwards to the FSA region.



**Origin:** *Cyperus* = sedge; *alopecuroides* = Like the genus *Alopecurus* from the Greek *alopekouros*, meaning grass like a fox's tail.





### Measurements

Culm height: 0.6-2.4 m  
Leaf length: NA  
Leaf width: NA  
Inflorescence: 80-440 mm  
Bract length: 38-76 mm  
Spikelet length: 5-55 mm  
Nutlet length: 1.4-1.7 mm

## *Cyperus articulatus* Linnaeus. CYPERACEAE)

(E: aldrue, jointed flatsedge)

**Synonyms:** *Cyperus corymbosus* Rottb.

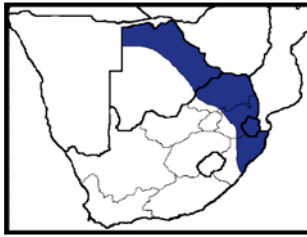


Robust, leafless, perennial, grass-like plant with long-creeping stoloniferous rhizome, 2-8 mm thick, with blackish or purplish scales. **Culms:** Stiffly erect along the rhizome at intervals of 1-2 cm. **Leaves:** Reduced, bladeless sheaths; sheaths 3-5 at base of culm, scale-like, straw-coloured, purple or blackish. **Inflorescence:** Compound panicle, 1-3 sessile spikelets, 2-10 stalked spikes; with keeled bracts. **Spikelets:** Long and narrow, flattened. **Fruit:** Nutlet about the size of glume. **Altitude:** 2-1065 m. **Habitat:** Often forms extensive stands in wet, organically rich sediments at the edges of freshwater pans, in sand and alluvium along river banks, and in shallow, lightly brackish water (oligohaline water  $\pm$  0.5ppm) in coastal swamps. **Distribution:** KZN, MP and LP; also Botswana, Namibia and Swaziland. **General:** Widespread in tropical and warm regions. Indigenous. Ethnomedicinal uses. Culms used to make mats; roots used medicinally as a sedative, to treat abdominal disorders and snake bite, also to reduce vomiting in yellow fever; underground stem used as a colic and toothache remedy. Originally *C. articulatus* and *C. corymbosus* Rottb. were considered to be two distinct species. Recent research concluded that *C. corymbosus* was merely a more robust form of *C. articulatus* and that the elongated rhizomes or tuberous corms of *C. corymbosus* were influenced by seasonal changes, fluctuating water levels and increased competition.

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**Origin:** *Cyperus* = sedge; *articulatus* = jointed, distinct





***Cyperus compressus* L**  
(CYPERACEAE)

(E: Flat sedge, flat-flowered sedge)

**Synonyms:** -

**Measurements**

Culm height: 0.10-0.60 m  
 Leaf length: 10-60 mm  
 Leaf width: 3.2-5.1 mm  
 Inflorescence: NA  
 Bract length: NA  
 Spikelet length: 12.7-19.0 mm  
 Nutlet length: NA

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Tufted, annual, grass-like plant; between 0.1-0.6 m high. **Culm:** Smooth, erect and triangular at the top. **Leaves:** Basal, grass-like, grey-green, sheaths often reddish and as tall as the culm. **Inflorescence:** Single head, or with one to several rays that carry spikelet heads. **Flowers:** Flattened greyish-green to reddish brown, neat spikelets. **Fruit:** Dark brown spikelet; 3-sided and a 1/3 of the glume. **Altitude:** 5-1150 m. **Habitat:** Found in damp areas or weed of cultivation. **Distribution:** Found in KZN, MP and LP; also in Botswana and Namibia. **General:** Decorative container plants. **Similar species:** None.

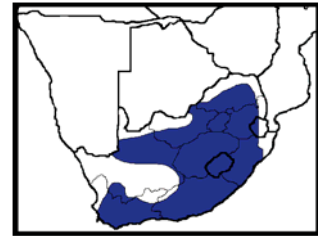
**Origin:** *Cyperus* = sedge; *compressus* = flattened



### Measurements

Culm height: 0.17-0.91 m  
Leaf length: mm  
Leaf width: mm  
Inflorescence: 80-440 mm  
Bract length: mm  
Spikelet length: 10-28 mm  
Nutlet length: NA

## *Cyperus congestus* Vahl (CYPERACEAE)



**Synonyms:** *C. congestus* Vahl var. *glanduliferus* (C.B.Clarke) Kük., *C. congestus* Vahl var. *grandiceps* Kük., *C. cooperi* (C.B.Clarke) K.Schum., *C. congestus* Vahl var. *pseudonatalensis* Kük., *Mariscus congestus* (Vahl) C.B.Clarke,



Perennial, grass-like plant, with a short thick rhizome. **Culm:** Smooth, slightly swollen (pink/reddish) at the base; triangular in cross section. **Leaves:** Shorter than the culm, ridged with deep groove down the centre; leaf sheath closed. **Inflorescence:** 2-7 flower heads; each inflorescence have up to 20 spikelets. **Flowers:** Smooth, delicate red/brown in colour; bracts are much longer than the spikelets. **Fruit:** Tiny dark brown to black, triangular, pear-shaped nut. **Altitude:** 2-2425 m. **Habitat:** Damp streambanks, moist depressions in grasslands, the margins of temporary water bodies, drainage ditches, or plants may be weeds of disturbed natural areas, or of cultivation. **Distribution:** Found in WC, EC, FS, KZN, MP, LP, NW, GA and NC; Also in Lesotho and Swaziland. **General:** Widespread. Grazed by cattle and used to make ropes and baskets. **Similar species:** None.



**Origin:** *Cyperus* = sedge; *congestus* = closely packed together





*Cyperus denudatus* L.f. var.  
**denudatus**  
(CYPERACEAE)

(E: Winged sedge)

**Synonyms:** *C. platycaulis* in sense of Germishuizen & Meyer, not of Baker

**Measurements**

Culm height: 0.20-0.90 m  
Leaf length: < 10 mm  
Leaf width: NA  
Inflorescence: 25.4-152.4 mm  
Bract length: 5-80 mm  
Spikelet length: 3-10 mm  
Nutlet length: 0.5-0.7 mm

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Slender, perennial grass-like plant; between 0.20-0.90 m high. **Culms:** Bright green, conspicuously 3-angled, becoming winged. **Leaves:** Leafless, reduced to stem sheaths. **Inflorescence:** Spreading compound umbel forming roundish flowerhead. **Flowers:** Flowerhead shiny golden brown with 2 short bracts, arranged in small clusters. **Fruit:** Pale brown 3-angled nutlet. **Altitude:** 2-2200 m. **Habitat:** Abundant in permanent water of swamps and streambanks, or less frequently in wet depressions in grasslands and occasionally found on dry land. **Distribution:** Found in WC, EC, KZN, FS, MP, LP, NW and GA, also in Swaziland. **General:** Widespread in Africa extending to FSA region. Culms used to make mats. The winged culm is the photosynthetic organ of the plant. **Similar species:** *C. sphaerospermus*, which is not winged.



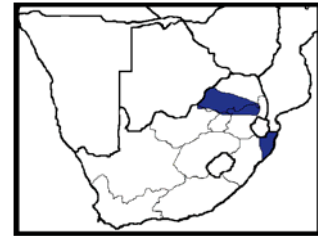
**Origin:** *Cyperus* = sedge; *denudatus* = stripped, without



**Measurements**

Culm height: 0.60-2.00 m  
Leaf length: 200-500 mm  
Leaf width: 6-12 mm  
Inflorescence: 40-200 mm  
Bract length: NA  
Spikelet length: 4-10 mm  
Nutlet length: 1.0-1.4 mm

*Cyperus digitatus* Roxb. subsp.  
*auricomus* (Sieber ex Spreng.) Kük.  
(CYPERACEAE)



**Synonyms:** —



Robust, perennial, grass-like plant. **Culms:** Tufted or solitary, sharply three-angled. **Leaves:** Few, shorter than, or as long as stem sheaths purplish; blades flat or, larger ones folded and somewhat W-shaped with 1-3 prominent nerves. **Inflorescence:** Cylindric spikes. **Flowers:** Spikelets cylindrical or angular; glumes pointed, golden to reddish brown. **Altitude:** 610-1130 m. **Habitat:** In or near water in swamps or seasonally flooded areas, river banks or along ditches. **General:** Pantropical and subtropics, widespread in Africa, extending to FSA region. The reed frogs (*Hyperolius spp.*) are often found on this large sedge's leaves. **Similar species:** *C. dives*, which has no winged culm.

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**Origin:** *Cyperus* = sedge; *digitatus* = hand-shaped; *auricomus* = golden-haired





***Cyperus dives*** Delile  
(CYPERACEAE)

(E: Giant sedge; SW: likhwane; : ikhwane, isikane)

**Synonyms:** *C. immensus* C.B.Clarke

**Measurements**

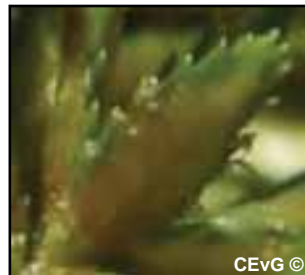
Culm height: < 2.00 m  
Leaf length: 608-1216 mm  
Leaf width: 12.5-25.4 mm  
Inflorescence: ± 304 mm  
Bract length: ± 610 mm  
Spikelet length: ± 8.5 mm  
Nutlet length: 0.6-0.8 mm

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Coarse, robust, erect, perennial, grass-like plant. **Culms:** Tufted, smooth and strongly 3-sided. **Leaves:** Nearly as tall as the culm; sheaths thick, reddish to purple-blackish-brown; blades flat to w-shaped; margins with fine teeth; bracts 4-6; unequal; lower ones overtopping the inflorescence. **Inflorescence:** Compound, groups of sub-sessile stalked spikes. **Flowers:** Very crowded, semi-erect, linear-lanceolate in outline, yellowish-green to golden-green. **Seed:** Nuts 3-sided, ellipsoid, smooth and greyish. **Altitude:** Up to ± 1000 m. **Habitat:** Open water or around the edge in shallow water of lakes, pools, depressions and reed swamps or along riverbanks and streamlet margins. **Distribution:** Found in the EC, KZN, MP and LP; also in Swaziland. **General:** *C. dives* is one of KwaZulu-Natal's larger sedges. Clearance of natural vegetation near water courses at the coast for planting of sugar cane has greatly increased the frequency of this species. **Similar species:** *C. digitatus*, which have wings on the culm and flatter and wider spikelets.



**Origin:** *Cyperus* = sedge; *dives* = rich, plentiful



### Measurements

Culm height: 0.25-0.90 m  
Leaf length: NA  
Leaf width: 4-8 mm  
Inflorescence: NA  
Bract length: NA  
Spikelet length: NA  
Nutlet length: NA

## *Cyperus eragrostis* Lam. (CYPERACEAE)

**Synonyms:** *C. vegetus* *illd.*



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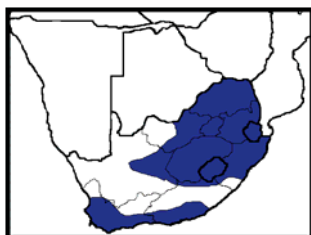
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Leafy, annual to perennial grass-like plant. **Culms:** Tall and erect. **Leaves:** Long thin pointed leaves. **Inflorescence:** Broad, compressed and green in life with 5-7 long bracts. **Flowers:** Closely clustered and sessile spikelets, green central zone and broad band of semitransparent green, that may be accompanied by additional heads. **Fruit:** 3-sided nutlet. **Altitude:** 395-1800 m. **Habitat:** A ruderal in variety of wetland habitats. **Distribution:** Found in KZN, FS, G, LP, NW and NC. **General:** Naturalised specie that is native to the East Coast of America, temperate regions & Southern America. **Similar species:** None.

**Origin:** *Cyperus* = sedge; *eragrostis* = love grass.

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***Cyperus fastigiatus*** Rottb.  
(CYPERACEAE)

**Synonyms:** —

**Measurements**

Culm height: 0.60-2.59 m  
 Leaf length: 600 mm  
 Leaf width: 6.4-8.5 mm  
 Inflorescence: 200 mm  
 Bract length: 305-457 mm  
 Spikelet length: ± 38 mm  
 Nutlet length: ± 1.2 mm

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Robust, tufted and underground creeping, perennial plant. **Culms:** Sharply triangular and often longer than 1 m. **Leaves:** Strongly veined. **Inflorescence:** Abundant, axes very unequal, longer repeatedly branched. **Flowers:** Spikelets often sub-erect on spikelet axis with golden-brown wings and spirally twisted when glumes and fruit have fallen; glumes reddish brown. **Fruit:** Pale-brown, oblong-ellipsoid, pyramidal-topped nutlet. **Altitude:** 2-1735 m. **Habitat:** Permanent pools, wet marshy areas, or margins of pools. **Distribution:** Found in WC, EC, KZN, FS, MP, LP, NW, GA and NC **General:** Common indigenous species also found in Mozambique; have ethnomedicinal uses. **Similar species:** *C. digitatus* subsp. *auricomus*.

**Origin:** *Cyperus* = sedge; *fastigiatus* = with an upright habit.



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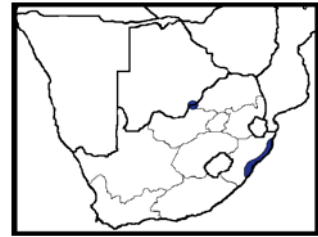


### Measurements

Culm height: < 1.75 m  
Leaf length: NP  
Leaf width: NP  
Inflorescence: 80-440 mm  
Bract length: 100-350 mm  
Spikelet length: 2-10 mm  
Nutlet length: 0.8-0.9 mm

## *Cyperus involucratus* (CYPERACEAE)

**Synonyms:** *C. alternifolius* Vahl.; *C. alternifolius* L.  
subsp. *flabelliformis* (Rottb.) Kük

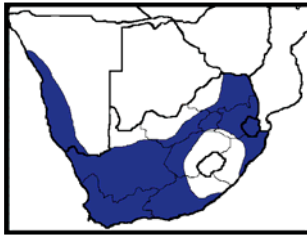


Perennial, grass-like plant. **Culm:** Rounded with longitudinal ridges, rough to the touch. **Leaves:** Blades absent or upper leaf sheath with leafy limb. **Inflorescence:** Compound flower cluster with spikelets on long flower stalks and overtopped by numerous drooping bracts. **Flowers:** Light to medium brown, lanceolate and compressed spikelets, **Fruit:** Yellow to brownish, 3-sided nutlet, minutely papillose. **Altitude:** 10-30 m. **Habitat:** Grows in swampy forests. **Distribution:** Found in KZN, and NW; also in Botswana **General:** Indigenous specie found from East Africa and extending southwards to KZN.

**Origin:** *Cyperus* = sedge; *involucratus* = having a circle of bracts around the flowers

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***Cyperus laevigatus* L.**  
(CYPERACEAE)

(A: Rivierkweek)

**Synonyms:** *C. laevigatus* L. var. *subaphyllus* (Boeck.) Kük.; *Juncellus laevigatus* (L.) C.B.Clarke

**Measurements**

Culm height: 0.15-0.75 m  
Leaf length: < 40 mm  
Leaf width: 0.5-2.0 mm  
Inflorescence: 80-440 mm  
Bract length: 10-30 mm  
Spikelet length: ± 8.5 mm  
Nutlet length: 1.5-1.7 mm

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Small to medium, underground creeper to tufted, perennial grass-like plant. **Culms:** Crowded or solitary; fleshy and round. **Leaves:** Reduced to sheaths. **Inflorescence:** Sessile pseudo-lateral spikelets. **Flowers:** Sessile spikelets light brown or purplish; bent upwards. **Fruit:** Plano-convex, smooth brown nutlet. **Altitude:** 1-1435 m. **Habitat:** Along freshwater streams, margins of pools, lagoons, estuarine backwaters, damp areas along seashore; common in brackish water (hypersaline up to 35 ppm). **Distribution:** Found in WC, EC, KZN, FS, MP, LP, NW, GA and NC; also in Botswana, Namibia and Swaziland. **General:** Widespread indigenous specie found in pantropical and subtropical areas. **Similar species:** None in South Africa.

**Origin:** *Cyperus* = sedge; *laevigatus* = smooth



#### Measurements

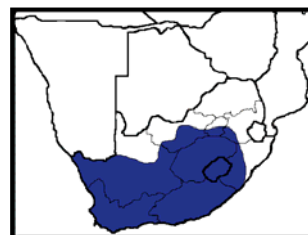
Culm height: 0.10-1.70 m  
Leaf length: 150-300 mm  
Leaf width: 2-5 mm  
Inflorescence: 20-130 mm  
Bract length: 60-120 mm  
Spikelet length: 10-30 mm  
Nutlet length: 1.4-1.6 mm

## *Cyperus longus* L. var. *longus*

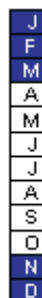
(CYPERACEAE)

(E: Sweet cyperus; A: waterbiesie, dooiwortel; : indawo)

Synonyms: —



Perennial grass-like plant. **Culm:** Only slightly swollen at base, usually solitary, 1-4 mm thick, cylindrical below, 3-angled above, smooth. **Leaves:** Several, sheaths light to dark reddish-brown; blades withering early, shorter than culm. **Inflorescence:** Simple or compound, of 1 sessile and 4-8 stalked spikes, with or without secondary spikes, rays very unequal up to 10 cm long. **Flowers:** Spikes usually loose, 1-5 cm, with 3-12 spreading spikelets, rachis smooth and hairless. Spikelets flattened, linear to lanceolate in outline, Dark reddish-brown, glumes ovate, sides without nerves. **Fruit:** Nutlet. **Altitude:** 15-1800 m. **Habitat:** Edges of or in shallow water along rivers and streams, seasonally flooded areas, ephemeral river beds or pools in ephemeral riverbeds, around springs or in oshanas. **Distribution:** WC, EC, KZN, FS, MP, LP, NW, GA and NC; also in Botswana, Lesotho, Namibia and Swaziland. **General:** Indigenous specie found from India, Tropical New World, Uganda, Tanzania, Kenya, Mozambique and extending to FSA region. Used ethnomedicinally. Creeping culms used to treat stomach disorders and colds; sap considered to be poisonous and may burn the skin. **Similar species:** *C. rotundus* and *C. longus* var. *tenuiflorus*.



**Origin:** *Cyperus* = sedge; *longus* = long





## *Cyperus longus* L. var. *tenuiflorus*

(Rottb.) Boeck.  
(CYPERACEAE)

(E: Sweet cyperus; A: Waterbiesie)

**Synonyms:** *C. longus* L. subsp. *tenuiflorus* (Rottb.)  
Kük.

### Measurements

Culm height: 0.30-1.06 m  
Leaf length: 150-300 mm  
Leaf width: 2-5 mm  
Inflorescence: 20-130 mm  
Bract length: 60-120 mm  
Spikelet length: 10-30 mm  
Nutlet length: 1.4-1.6 mm

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Perennial grass-like plant. **Culms:** Triangular. **Leaves:** Somewhat bluish-green, midrib well marked. **Inflorescence:** Long, narrow spikelets at tips of loose inflorescence rays. **Flowers:** Smaller pale brown glumes usually with yellowish midrib. **Fruit:** Nutlet. **Altitude:** 245-1430 m. **Habitat:** Edges of or in shallow water along rivers or streams, seasonally flooded areas, ephemeral riverbeds or pools in ephemeral riverbeds, around springs, in oshanas. Distribution: **General:** Indigenous species found in India, Tropical New World, and tropical Africa extending to the FSA region. Used ethnomedicinally. **Similar species:** *C. longus* var. *longus*.

**Origin:** *Cyperus* = sedge; *longus* = long; *tenuis* = thin, slender, fine; *florus* = flowered



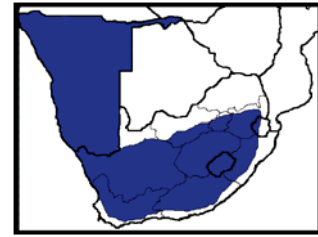
### Measurements

Culm height: 0.30-1.52 m  
Leaf length: <10 mm  
Leaf width: NA  
Inflorescence: 20-60 mm  
Bract length: <30 mm  
Spikelet length: 6-12 mm  
Nutlet length: ± 0.6 mm

## *Cyperus marginatus* Thunb. (CYPERACEAE)

(A: Biesie, matjiesgoed)

**Synonyms:** *C. brunneo-vaginatatus* Boeck.



Perennial tufted, grass-like plant; with short underground creepers. **Culms:** Rounded. **Leaves:** Blades reduced, occasionally upper sheath with slightly prolonged blade. **Inflorescence:** A branched flower cluster subtended by short bracts. **Flowers:** Spikelets digitally arranged, sometimes solitary; compressed, glossy red-brown; glumes minutely mucronate. **Fruit:** Oblong nutlet. **Altitude:** 5-2150 m. **Habitat:** Common along riverine floodplains usually rooted in shallow water, often among rocks; sometimes they border isolated small pools. **Distribution:** Found in WC, EC, FS, KZN, MP, NW, GA, NC; also in Lesotho and Namibia **General:** Very rare in East Africa; but not in South Africa. **Ethnomedicinal uses.** **Similar species:** None.

**Origin:** *Cyperus* = sedge; *marginatus* = with a distinct margin, edge or border

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HG ©



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MM ©



***Cyperus natalensis*** Hochst.  
(CYPERACEAE)

**Synonyms:** —

**Measurements**

Culm height: 1.00-1.30 m  
 Leaf length: NA  
 Leaf width: NA  
 Inflorescence: NA  
 Bract length: NA  
 Spikelet length: 10-25 mm  
 Nutlet length: NA

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Medium to tall, perennial, essentially a seashore grass-like species, growing in large stands, stabilizing sand. **Culms:** Soft and pliable, sometimes with swollen base. **Leaves:** Generally reduced to reddish brown sheaths; presence of leaves not uncommon. **Inflorescence:** Varied from flower clusters with long or short rays to more dense, contracted, head-like examples as shown here. **Flowers:** Scarcely compressed spikelets. **Fruit:** Thin oblong nutlet. **Altitude:** 1-60 m. **Habitat:** Flourishes in permanent fresh water up to 1 m in depth, forming dense stands fringing the shoreline of lakes, also occur in mesic ecological conditions with grasses and occasional dicotyledons. **Distribution:** Found in KZN. **General:** The plant is used in basketry. **Similar species:** None.



**Origin:** *Cyperus* = sedge; *natalensis* = from Natal (now KwaZulu-Natal)



### Measurements

Culm height: < 5.00 m  
Leaf length: NP  
Leaf width: NP  
Inflorescence: 300-600 mm  
Bract length: 50-100 mm

## *Cyperus papyrus* L. (CYPERACEAE)

(E: Papyrus, paper plant; A: Papyrus; Th: adumu;  
: ibumi)

Synonyms: —



Tall, coarse, grass-like plant, emergent or amphibious hydrophyte or sudd plant. Perennial grass-like plant. **Culms:** Tall, slightly 3-sided; modified leaves associated with the inflorescence light brown. **Leaves:** Blades absent. **Inflorescence:** Compound umbel-like anthela. **Spikelets:** Glumes light to golden brown. **Altitude:** 5-1000 m. **Habitat:** Along the edge of rivers, seasonal or permanent pools, or swamps. **Distribution:** Found in KZN, MP and LP. **General:** Indigenous specie found common throughout Africa extending naturally to northern coastal areas of KwaZulu-Natal in the FSA region. Originally used to make paper. Despite being one of the most productive plants known to man it is very unpalatable and has a low forage quality, and therefore supports few plantivores; grows in unstable peat deposits unsuitable as a habitat for large plantivores except the sitatunga (*Tragelaphus spekei*) which has splayed hooves, and which feeds on young shoots. In northern Botswana used to make sleeping mats. Used for ethnomedicinal purposes. **Similar species:** None

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**Origin:** *Cyperus* = sedge; *papyrus* = papyry





***Cyperus prolifer*** Lam.  
(CYPERACEAE)

(E: Dwarf papyrus, miniature papyrus; A: Dwerg papyrus)

**Synonyms:** *C. isocladius* Kunth; *C. prolifer* Lam. var. *isocladius* (Kunth) Kük.

**Measurements**

Culm height: 0.30-1.20 m  
 Leaf length: NP  
 Leaf width: NP  
 Inflorescence: 100-200 mm  
 Bract length: 5-30 mm  
 Spikelet length: 3-12 mm  
 Nutlet length: 0.4-0.5 mm

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Robust, underground creeping, perennial, grass-like plant. **Culms:** Smooth, green, erect, round or 3-sided, 2-7 mm thick. **Leaves:** Bladeless, sheaths reddish-brown to dark purple, the tip ending in a sharp point. **Inflorescence:** Reddish-brown, compound, spreading, umbel-like; at maturity rays reflex forming spherical inflorescences. **Spikelets:** 1-30 per ray, ovate to cylindrical; glumes elliptic to broadly-ovate, light reddish-brown with paler margin; midrib ending at the tip or slightly bending outwards. **Fruit:** Nuts obovate, 3-sided, smooth, whitish to brown. **Altitude:** 5-455 m. **Habitat:** Along the edge of rivers, seasonal pools or flooded areas, permanent marshes. Occasionally in slightly brackish water (5 ppm total salts). **Distribution:** EC and KZN. **General:** From South Egypt to SA.

**Origin:** *Cyperus* = sedge; *prolifer* = free-flowering



CJC ©



CEvG ©



CEvG ©



RW ©



#### Measurements

Culm height: 0.30-0.76 m  
Leaf length: 20-51 mm  
Leaf width: 0.6-0.8 mm  
Inflorescence: 51-127 mm  
Bract length: NA  
Spikelet length: 0.5-0.2 mm  
Nutlet length: NA

## *Cyperus pulcher* Thunb. (CYPERACEAE)

Synonyms: —



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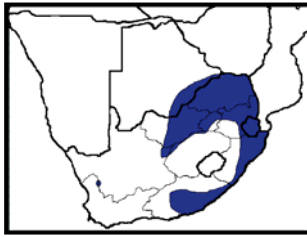
Robust, tufted, leafy, perennial, grass-like plant, with a woody rhizome, not well developed and covered in scales. **Culms:** 3-angled, about 3 mm in diameter; winged below inflorescence. **Leaves:** Leaf blades flattish, thin and soft in texture. **Inflorescence:** Green to brown; clusters of three spikelets, rounded flowerhead; cluster stems three sided with rounded angles below inflorescence, smooth and green. **Flowers:** Reddish brown spikelets, with leaf-like, spreading bracts (not shown in photograph). **Altitude:** 365-1250 m. **Habitat:** Along the edge of streams, rooted in wet mud or among rocks where there is a gentle permanent flow of water, common in disturbed areas. **General:** Endemic to KwaZulu-Natal and Eastern Cape of South Africa. **Similar species:** None.

**Origin:** *Cyperus* = sedge; *pulcher* = beautiful

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***Cyperus sexangularis*** Nees  
(CYPERACEAE)

(A: Biesiesgras, matjiesgoed; SS: mothlathla)

Synonyms: —

**Measurements**

Culm height: 0.30-1.50 m  
Leaf length: NA  
Leaf width: NA  
Inflorescence: NA  
Bract length: NA  
Spikelet length: NA  
Nutlet length: NA

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Robust, tufted, perennial grass-like plant. **Culm:** Six-angled and scabrid. **Leaves:** Blades absent, but with green photosynthetic bracts surrounding the inflorescence. **Inflorescence:** Compact to loose, flower cluster. **Flowers:** Reddish glumes with lighter midrib. **Fruit:** NA **Altitude:** 2-1500 m. **Habitat:** Along the edge of streams, rivers and pans, often in water, occasionally found growing in drier areas. If it was seed that germinated there then it is a facultative, however if rootstock was planted and can only perpetuates vegetatively then it would be obligate. **Distribution:** Found in WC, EC, KZN, MP, LP, NW, GA and NC; also in Botswana and Swaziland. **General:** Stems commonly used to make sleeping mats. Roots used in traditional medicine. **Similar species:** *C. alternifolius* subsp. *flabelliformis*.

**Origin:** *Cyperus* = sedge; *sexangularis* = six sided



#### Measurements

Culm height: 0.60-1.50 m  
Leaf length: NP  
Leaf width: NP  
Inflorescence: NA  
Bract length: ± 100 mm  
Spikelet length: 3-4 mm  
Nutlet length: ± 1 mm

## *Cyperus textilis* Thunb. (CYPERACEAE)

(E: Tall star sedge, matsedge; A: Kooigoed, Matjiesgoed; : ingculu; : umuzi)

Synonyms: —



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Perennial, grass-like plant occurring in large colonies. **Culm:** Robust, faintly cylindrical and smooth. **Leaves:** Leafless. **Inflorescence:** Sharp tipped, branched, leaf-like structures at base of inflorescence. **Flowers:** Spikelets dull green or pale brown, tinged red, bracts longer than inflorescence branches. **Altitude:** 5-1675 m. **Habitat:** Wet, marshy areas along the coast or in shallow water along rivers and streams. Can tolerate brackish water (oligosaline). **General:** Endemic to Western Cape & Eastern Cape of South Africa. Culms used for weaving baskets, mats and Nama huts. **Similar species:** *C. involucratus*, which occur mostly in coastal swamp forest and open water with culms robust, faintly ridged and rough beneath the inflorescence; *C. sexangularis*, which are found from the coast to the midlands with slender, 6-angled culms with rough ridges.

**Origin:** *Cyperus* = sedge; *textilis* = woven

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***Cyperus thunbergii*** Vahl  
(CYPERACEAE)

**Synonyms:** *C. alopecuroides* in sense of Thunb., not of Rottb.; *Mariscus riparius* Schrad. *Mariscus riparius* Schrad. var. *robustior* C.B. Clarke; *Mariscus thunbergii* (Vahl) Schrad.

**Measurements**

Culm height: 0.35-2.00 m  
Leaf length: NA  
Leaf width: ± 8.5 mm  
Inflorescence: 76-127 mm  
Bract length: 508 mm  
Spikelet length: ± 5 mm  
Nutlet length: NA

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Robust, tufted, perennial, grass-like plant. **Culms:** Stiff, 3-sided and solid. **Leaves:** Basal, slightly shorter than stem. **Inflorescence:** Unequal flower stalks. **Flowers:** Brownish spikelets. **Fruit:** Dull red-brown nutlet. **Altitude:** 10-1400 m. **Habitat:** Moist places along streambanks, often a ruderal; in damp places or forest verges along the coastal belt. **Distribution:** Occur in WC, EC and KZN. **General:** Endemic to Western Cape & Eastern Cape of South Africa. **Similar species:** None.

**Origin:** *Cyperus* = sedge; *thunbergii* = named after Carl Thunberg, a renowned botanist and student of Linnaeus, who collected widely in South Africa.



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CHS ©



CHS ©



CHS ©

## *ELEOCHARIS* Schrad.

The species are cosmopolitan and ± 200 species are found worldwide, of which ± 12 species are found in South Africa.

### **Distribution**

These species are reported from the WC, EC, KZN, FS, MP, LP, NW, GA and NC.

### **Descriptive characteristics**

Plants are perennial or annual, mostly with creeping above ground stolons or rhizomes, leafless and hairless. They vary from short, soft, rather small, inconspicuous herbs (e.g. *E. atropurpurea*) to tall plants 1m (*E. variegata*). The plants often form concentrated dense, almost pure emergent stands in permanent water of lakes, and smaller water bodies (*E. acutangula*; *E. dulcis*). The terminal, unbranched inflorescence is characteristic with its rather hard, spiral glumes (*E. dregeana*). However, there are sometimes branches from the inflorescence, each of which bears a small, often imperfectly formed spikelet. Vegetative proliferation (common in *E. limosa*), brought about by the inclination of the stem with its heavy head' to ground level, where rooting takes place. Stems vary in shape and in cross-section (*E. dregeana* round; *E. acutangula* 3-angled; *E. dulcis* septate). Style branches are 2 or 3, sometimes both numbers within an individual spikelet; style base expanded and persistent on the nutlet (the shape varies from maturity to drying).

### **Habitat**

Plants are associated with water; either fresh, oxygenated, slowly flowing shallow water of streamlets (*E. dregeana*), or wet to damp surroundings (*E. limosa*), or the deeper permanent water of lakes or residual smaller water bodies. The small herbs are mostly helophytes, rooted in the mud, with vegetative organs partially, or not, inundated periodically.

### **Notes**

None.





***Eleocharis acutangula*** (Roxb.) Schult.  
(CYPERACEAE)

**Synonyms:** *E. fistulosa* Link; *Scirpus acutangulus* Roxb.

**Measurements**

Culm height: 0.42-1.82 m  
Leaf length: < 230 mm  
Leaf width: NA  
Inflorescence: 10-60 mm  
Bract length: NA  
Spikelet length: 10-60 mm  
Nutlet length: 1.4-2.0 mm

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Tufted, creeping, perennial, grass-like plant, often forming sudds. **Culms:** Sharply 3-angled, erect, tufted and twisted; pale green and spongy inside. **Leaves:** Reduced to dark red to brown, delicate sheath. **Inflorescence:** Single terminal, oblong, panicle with 1 bract. **Flowers:** Cylindrical to oblong-elongate, greenish spikelets. **Fruit:** Nutlet minute, biconvex, shining cinnamon brown. **Altitude:** 2-1400 m. **Habitat:** Permanent pools, seasonal pools, swamps, marshes and vleis. **Distribution:** Found in EC, KZN, MP and LP; also in Botswana, Namibia and Swaziland. **General:** Pantropical. Indigenous. Used for mats and floats for fishing nets. **Similar species:** *E. dulcis* and *E. mutata*.

**Origin:** *Heleo* = marsh; *charis* = delight; *acute* = sharp; *angularis* = with angles.



#### Measurements

Culm height: 0.05-0.15 m  
Leaf length: NP  
Leaf width: NP  
Inflorescence: 2-4 mm  
Bract length: NA  
Spikelet length: 2-4 mm  
Nutlet length: 0.5-0.8 mm

## *Eleocharis caduca* (Delile) Schult. (CYPERACEAE)

**Synonyms:** *E. intricata* Kük.; *Scirpus caducus* Delile



Small, annual, aquatic, grass-like plant. **Culms:** Angular. **Leaves:** Sheaths pale or brown. **Inflorescence:** Single spikelets. **Flowers:** Spikelets are narrowly ovoid with acute tips; 3-nerved, reddish brown glumes with green keel. **Fruit:** Dark reddish-brown or black, obovoid nutlet with flattened tip. **Altitude:** 1-1000 m. **Habitat:** Shallow water, seepage areas, extending into upper estuaries and brackish waters. **General:** Indigenous specie found in Africa from south Egypt to the FSA region.

**Origin:** *Heleo* = marsh; *charis* = delight; *caduca* = Falling early, referring to drooping sepals or petals

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***Eleocharis dregeana*** Steud.  
(CYPERACEAE)

(E: Finger sedge; SS: sechaba)

**Synonyms:** *E. palustris* of authors, not of (L.) R.Br.

Measurements
Culm height: 0.10-0.50 m
Leaf length: NP
Leaf width: NP
Inflorescence: ± 15 mm
Bract length: NA
Spikelet length: ± 15 mm
Nutlet length: 0.70-0.85 mm

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Small to medium, tufted, thick underground creeping, perennial, grass-like plant, between 0.10-0.50 m high. **Culms:** Rounded, erect, 1-3 cm in diameter, slightly flattened. **Leaves:** Leaf-sheaths reduced and scale-like at basis of culms. **Inflorescence:** Single terminal spikelet. **Flowers:** Blackish spikelets with dark-brown glume, transparent toward tips. **Seeds:** Nuts obovoid, golden to dark-brown and glossy. **Altitude:** Up to 2440 m. **Habitat:** Shallow water, permanent pools, seasonal pools and swamps. **Distribution:** Found in EC, KZN, FS, MP, NW and GA; also in Lesotho and Swaziland. **General:** Indigenous in Southern Africa.

**Origin:** *Heleo* = marsh; *charis* = delight; *dregeana* = Named after Johann Drege, German horticulturist, botanical collector and traveller who came to the Cape in 1826.





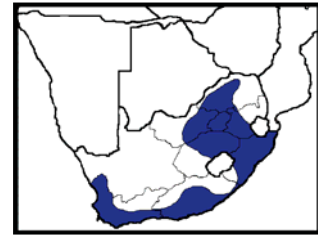
**Measurements**

Culm height: 0.30-1.00 m  
Leaf length: NP  
Leaf width: NP  
Inflorescence: 10-36 mm  
Bract length: NA  
Spikelet length: 10-36 mm  
Nutlet length: 1.3-2.0 mm

***Eleocharis limosa*** (Schrad.) Schult.  
(CYPERACEAE)

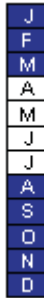
(E: Finger rush)

**Synonyms:** *Scirpus limosus* Schrad.



Tufted, underground creeping, perennial, grass-like sedge. **Culms:** Leafless. **Leaves:** Appears to be leafless. **Inflorescence:** Single, terminal, whitish to greyish spikelet, which often proliferates. **Flowers:** Light-brown spikelet at end of culm. **Altitude:** 1-1890 m. **Habitat:** Shallow water, marshes, vleis, extends into brackish water at upper estuaries. **General:** Occurs in Madagascar and southern Africa. Indigenous. Flower parts eaten by juvenile long-horned grasshopper and small beetle. **Similar species:** *E. dregeana* and *E. marginulata*.

**Origin:** *Heleo* = marsh; *charis* = delight; *limosus* = of marshes



## *Epischoenus* C.B. Cl

The species are endemic the South Africa; ± 8 species are found in South Africa.

### **Distribution**

These species are reported from the WC, EC, and possibly from KZN.

### **Descriptive characteristics**

It is perennial plants with or without leaf blades. The culms have basal nodes, are mainly circular, but sometimes 4-sided. The inflorescence consists of a few to several spikelets in a short raceme. The style is 3-branched. The nutlet is marble white, smooth, roundish and obscurely 3-angled.

### **Habitat**

Plants are found on moist slopes and flats.

### **Notes**

It is closely related to the *Tetraria* spp. It differs from these species by having the axis thickened and elongated above the bisexual florets. These species are all rather rare.



### Measurements

Culm height: 1.0-1.3 m  
Leaf length: 10-20 mm  
Leaf width: NA  
Inflorescence: NA  
Bract length: NA  
Spikelet length: 8-10 mm  
Nutlet length: NA

## *Epischoenus adnatus* Levyns (CYPERACEAE)

**Synonyms:** *Tetraria gracilis* Turrill



En



Densely tufted, perennial. **Culms:** Stems erect or drooping when in shady places; slender, wiry and grooved. **Leaves:** Firm sheaths deep red at base, becoming pale above, firm in texture; deep red, setaceous blade. **Inflorescence:** Lax with 2-4 spikelets; lowest bract overtopping inflorescence. **Flowers:** Brown, flattened spikelets with 2-ranked bracts. **Fruit:** Almost globose, weakly 3-sided, shining, marble-white, nutlet. **Altitude:** Up to 700 m. **Habitat:** Found on the middle and upper damp mountain slopes of Table Mountain. **Distribution:** Found only in the WC on Table Mountain. **General:** Endemic to the Western Cape. **Similar species:** *E. gracilis*.

**Origin:** *Epi* = on top of; *schoinos* = a rush or bulrush; *adnatus* = growing together

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***Epischoenus complanatus*** Levyns  
(CYPERACEAE)

Synonyms: -

**Measurements**

Culm height: 0.20-0.65 m  
Leaf length: < 0.20-0.65 mm  
Leaf width: 4-6 mm  
Inflorescence: NA  
Bract length: NA  
Spikelet length: 10-14 mm  
Nutlet length: NA

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Small, tufted perennial, grass-like plant. **Culms:** Flat, similar to the leaves. **Leaves:** With or without green leaves; sheaths laterally flattened. **Inflorescence:** Terminal on flattened culm with 2-3 leaf-like bracts. **Flowers:** Pale brown spikelets, partly hidden by the sheathing bract. **Fruit:** Dark brown, shining, ellipsoid with a small terminating beak and 3 ribs running longitudinal; seated on well-developed disc. **Altitude:** Up to 1830 m. **Habitat:** Damp upper mountain slopes. **Distribution:** Found from Tulbach to Caledon. **General:** Endemic to the Western Cape. **Similar species:** The plant is similar to *Juncus lomatophylus*.

**Origin:** *Epi* = on top of; *schoinos* = a rush or bulrush; *complanatus* = flattened.



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#### Measurements

Culm height: 0.20-0.70 m  
Leaf length: < 100 mm  
Leaf width: NA  
Inflorescence: 20-30 mm  
Bract length: NA  
Spikelet length: 10-12 mm  
Nutlet length: NA

## *Epishoenus dregeanus* (Boeck.) Levyns (CYPERACEAE)

**Synonyms:** *Elyanthus dregeanus* Boeck.,  
*Schoenus dregeanus* (Boeck.) Kuntze, *Tetraria dregeana* (Boeck.) C.B. Clark



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Tufted, perennial. **Culms:** Turned towards the right hand. **Leaves:** Sheath firm, blade reduced, dry and brown when plants are in flower. **Inflorescence:** Compound umbel, and overtopped by stiff, leafy bract. **Flowers:** Pale golden spikelets. **Fruit:** Olive brown, obovoid or oblong, 3-sided nutlet; tuberculate in upper part. **Altitude:** Up to 1525 m. **Habitat:** Found on the middle and upper damp mountain slopes of the Cedarberg and Franschhoek Mountains. **Distribution: General:** Endemic to the Western Cape. **Similar species:** None.

**Origin:** *Epi* = on top of; *schoinos* = a rush or bulrush; *dregeanus* = Named after Johann Dr ge, German horticulturist, botanical collector and traveller who came to the Cape in 1826.

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***Epischoenus gracilis*** Levyns  
(CYPERACEAE)

**Synonyms:**

**Measurements**

Culm height: 0.5-0.9 m  
Leaf length: NP  
Leaf width: NP  
Inflorescence: mm  
Bract length: mm  
Spikelet length: ± 10 mm  
Nutlet length: NA

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Densely tufted, perennial. **Culms:** Long slender, wiry culms. **Leaves:** Sheath with reduced absent blade. **Inflorescence:** Loose, panicle with yellowish spikelets, one long overtopping culm-like bract. **Flowers:** Long thin pale brown, yellowish spikelets, glumes membranous. **Fruit:** Pale, shining, oblong or ellipsoid, 3-sided nutlet; seated on a cup-like disc. **Altitude:** 245-945 m. **Habitat:** Found on the damp marshy places on the mountain slopes of the Cedarberg Mountains to George. **Distribution:** Found in the WC and EC. **General:** Endemic to the Western Cape and Eastern Cape. **Similar species:** None.

**Origin:** *Epi* = on top of; *schoinos* = a rush or bulrush; *gracilis* = slender.



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**Measurements**

Culm height: ± 0.6 m  
Leaf length: NP  
Leaf width: NP  
Inflorescence: NA  
Bract length: NA  
Spikelet length: ± 15 mm  
Nutlet length: NA

***Epischoenus lucidus*** (C.B. Clark) Levyns  
(CYPERACEAE)

**Synonyms:** *Epischoenus eriophorus* Levyns;  
*Tetraria lucida* C.B. Clark



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**P**

Robust, tufted, perennial. **Culms:** Light green and grooved when dry; stout and slightly flattened. **Leaves:** Reddish to light brown leaf sheaths and blades absent. **Inflorescence:** Small terminal flowerhead with 12-16 bracts. **Flowers:** Brown and white, narrowly lanceolate spikelets. **Fruit:** Obscurely 3-sided, black-brown, smooth nutlet. **Altitude:** Up to 1670 m. **Habitat:** Found on the upper slopes of the cold Bokkevel to Bainskloof Mountains on swampy slopes. **Distribution:** Found in the WC and EC. **General:** Endemic to the Western Cape and Eastern Cape. **Similar species:** None..

**Origin:** *Epi* = on top of; *schoinos* = a rush or bulrush; *lucidus* = shining, clear, transparent.

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## *Epischoenus quadrangularis*

(Boeck.) C.B.Clark  
(CYPERACEAE)

**Synonyms:** *Schoenus quadrangularis* Boeck.

### Measurements

Culm height: 0.30-0.75 m  
 Leaf length: 8.4-25.4 mm  
 Leaf width: NA  
 Inflorescence: 12.7-38.1 mm  
 Bract length: 25.4-38.1 mm  
 Spikelet length: 2.1-8.4 mm  
 Nutlet length: 2.1 mm

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Tufted, perennial. **Culms:** Slender, conspicuously 4-sided at the top. **Leaves:** Bright red leaf sheaths; leaves flat at base, red or pale-brown, occasionally green; with 2 lower sub-erect, acute bracts. **Inflorescence:** Linear raceme with 4 spikelets. **Flowers:** Dull-brown with ellipsoid-lanceolate glumes minutely rough on the keel. **Fruit:** Sessile, dark brown spikelets, with linear base. **Altitude:** 155-1675 m. **Habitat:** Found on the damp mountain slopes from Cape Peninsula to Port Elizabeth. **Distribution:** Found in the WC and EC. **General:** Endemic to the Western and Eastern Cape. **Similar species:** None.



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**Origin:** *Epi* = on top of; *schoinos* = a rush or bulrush; *quadrangularis* = with four angles



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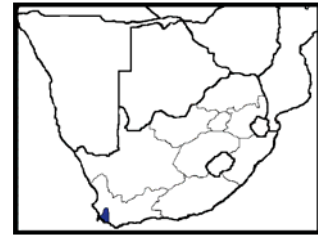
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### Measurements

Culm height: 0.9 m  
Leaf length: NP  
Leaf width: NP  
Inflorescence: NA  
Bract length: NA  
Spikelet length: ± 9 mm  
Nutlet length: NA

## *Epischoenus vilosus* Levyns (CYPERACEAE)



### Synonyms:



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A tufted, perennial. **Culms:** Slender and 3-sided. **Leaves:** Blades absent; sheaths, pale becoming mahogany red at base. **Inflorescence:** Closely packed spikelets with 2 or 3 overtopping, erect bracts. **Flowers:** Long, narrow, compressed spikelets with 6-8 bracts; lower bracts sharply pointed. **Fruit:** Narrowly, ellipsoid, brown, 3-sided with obtuse little beak. **Altitude:** Up to 610 m. **Habitat:** Found on the coastal flats to the upper slopes close to a stream. **Distribution:** Found in the WC from Cape Peninsula to Caledon. **General:** Endemic to the Western Cape. **Similar species:** None.

**Origin:** *Epi* = on top of; *schoinos* = a rush or bulrush; *vilosus* = softly hairy.

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## *FICINIA* Schrad.

There are ± 60 species worldwide of which ± 33 species are found in South Africa.

### **Distribution**

These species are reported from the southern parts of South Africa, namely the WC, EC, KZN, NW and NC; but also from Lesotho.

### **Descriptive characteristics**

The *Ficinia* spp. are perennials and lack perianth. The plants can be identified by the characteristic disc below the ovary. This disc enlarges in the fruit and falls with it. Some species lack the disc, but in them the inflorescence is a compound head.

### **Habitat**

Plants grow fringing rivers, streams and lakes where water is permanent and slowly moving. Plants are found in low lying areas in saline conditions and along mountain slopes.

### **Notes**

None.

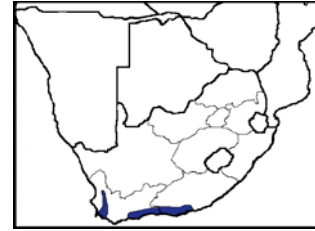


#### Measurements

Culm height: ± 0.3 m  
Leaf length: 304.5 mm  
Leaf width: NA  
Inflorescence: NA  
Bract length: NA  
Spikelet length: 50.8 mm  
Nutlet length: NA

## *Ficinia capillifolia* (Shrad.) C.B. Clark (CYPERACEAE)

**Synonyms:** *Hemichlaena capillifolia* Schrad.



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Slender, branched and leafy, perennial, grass-like plant. **Culms:** Very slender. **Leaves:** Long narrow leaves. **Inflorescence:** Single, to 3 terminal spikelets with long thin overtopping bract. **Flowers:** Linear spikelets slender with glumes with white edged. **Fruit:** Deep brown, smooth, sharply 3-sided, ellipsoid butlet. **Altitude:** 200-1800 m. **Habitat:** Grows in Fynbos on nutrient poor soils in the riparian zone of seasonal and perennial streams. **Distribution:** WC and EC. **General:** Endemic to the Cape region. Red data status is of low concern. **Similar species:** *F. longifolia*, which has more robust spikelets.

**Origin:** *Ficinia* = named after Heinrich David Auguste Ficus, 19th century German botanist; *capillifolia* = with hair-like leaves.

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C.J.C ©



C.J.C ©



***Ficinia elatior*** Levyns  
(CYPERACEAE)

**Synonyms:** —

**Measurements**

Culm height: < 0.75 m  
Leaf length: NA  
Leaf width: NA  
Inflorescence: 10 mm  
Spikelet length: NA  
Nutlet length: NA

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Perennial, grass-like plant with a woody underground creeper. **Culms:** Short and 3-angular. **Leaves:** Rigid, about half as long as the culm; sheath mahogany red below, paler above; ligule absent; blades channelled with rough margins. **Inflorescence:** Densely crowded compound head, with leafy bracts of varying length. **Flowers:** Reddish spikelets. **Fruit:** Obovoid, 3-sided, deep brown nutlet. **Altitude:** 15-395 m. **Habitat:** Flats near streams and pools below 400 m. **Distribution:** Found from the Cape Peninsula to Bredasdorp. **General:** Endemic vulnerable species in South Africa.

**Origin:** *Ficinia* = named after Heinrich David Auguste Ficus, 19th century German botanist *elatior* = a lifting up, exaltation.



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#### Measurements

Culm height: 0.30-1.20 m  
Leaf length: NA  
Leaf width: NA  
Inflorescence: NA  
Bract length: NA  
Spikelet length: NA  
Nutlet length: NA

### *Ficinia nodosa* (Rottb.) Goetgh., Muasya & D.A.Simpson (CYPERACEAE)

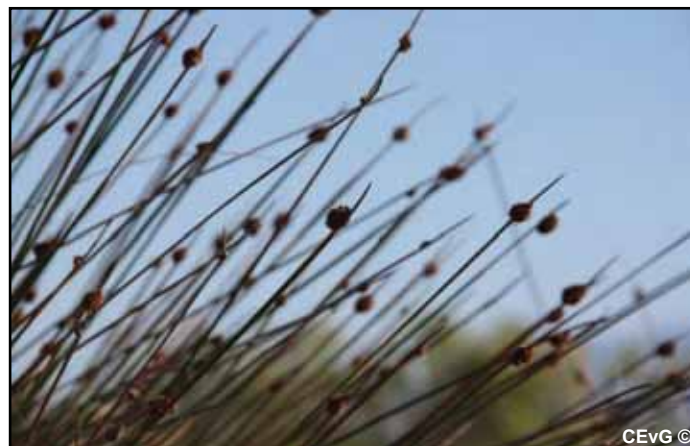
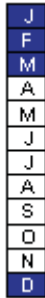
(E: Dune slack sedge; A: Steekrietjie)

**Synonyms:** *Scirpoides nodosus* (Rottb.); *Scirpus nodosus* Rottb.



Tufted, underground creeping, perennial sedge. **Culms:** Green, cylindrical, with sharp points. **Leaves:** Reduced to sheaths. **Inflorescence:** Cluster of 10-30 dark brown spikelets below a sharp terminal bract in a dense round cluster. **Flowers:** Dense, cylindrical spikelets. **Fruit:** Yellow-brown, broadly ovoid, compressed nutlet. **Altitude:** 0-1500 m. **Habitat:** In wet, saline, marshy, estuarine areas. **General:** Indigenous to primarily the coastal areas, but also found at inland areas. The species are also found in Australia and New Zealand. **Similar species:** *Juncus kraussii*, which occupy similar habitat, but has a paniculate inflorescence.

**Origin:** *Ficinia* = named after Heinrich David Auguste Ficus, 19th century German botanist; *nodosus* = with conspicuous nodes



## ***FIMBRISTYLIS* Vahl.**

There are ± 300 species worldwide. There are ± 8 species in South Africa.

### **Distribution**

These species are reported from EC, KZN,FS, MP, LP, NW, GA and NC.

### **Descriptive characteristics**

*Fimbristylis* is a genus of tropical and warm temperate climates; plants become rare, if present at all, at higher altitudes that exceeds 2700m. Plants are slenderly tufted, perennials (sometimes quite short-lived), leaf-bearing or leafless herbs. Most of these species are ± 0.25 m tall. When leaves are present, they are usually smooth and rather fleshy. Inflorescences have many spikelets (one or a group, terminating a stem and surrounded by other single or grouped spikelets on stalks of varying length).

Four species are frequently found in South Africa, generally in coastal, wet to damp grassland.

### **Habitat**

Plants grow standing in water, often haline, to damp to dry depressions in grassland.

### **Notes**

Other *Fimbristylis* species are limited in distribution (mostly in Maputo and St Lucia), with occasional occurrences along the southern coast as far as Mtavuma River. The main area of distribution of the genus is Malaysia. *Fimbristylis*, *Bulbostylis* and *Abildgaardia* have common features. This has led to one genus being 'absorbed' into another. Consensus now supports the recognition of the individual genera.

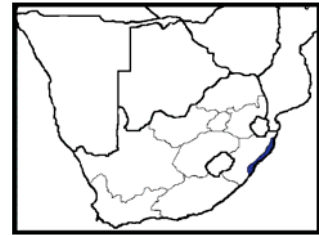


### Measurements

Culm height: < 1.20 m  
Leaf length: < 300 mm  
Leaf width: 2-4 mm  
Inflorescence: NA  
Bract length: ± 20 mm  
Spikelet length: 2.5-3.5 mm  
Nutlet length: 0.6-0.7 mm

## *Fimbristylis aphylla* Steud. (CYPERACEAE)

Synonyms: —

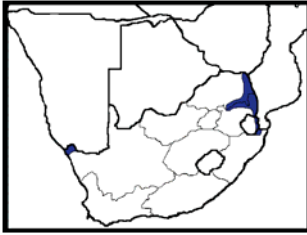


Tufted, perennial, grass-like plant, amphibious hydrophyte or helophyte. **Culms:** Densely tufted, smooth, 4-5 angled; with 4-5 wings or grooves. **Leaves:** On sterile shoots with well developed blades; up to 30 cm long; 2-4 mm wide; with permanent midrib. Leave-like bracts 2-5, lanceolate up to 2 cm long, not overtopping inflorescence. **Inflorescence:** Terminal, compound, paniculate. **Flowers:** Solitary spikelets, ovoid, many-flowered, brown, remaining attached to the rachis. **Seed:** Nuts obscurely 3-sided, warty. **Altitude:** 6-400 m. **Habitat:** Swamps, marshes, vleis, permanent pools and seepages areas. **Distribution:** Found in KZN. **General:** Indigenous vulnerable species. **Similar species:** None.

**Origin:** *Fimbriatus* = fringed; *stylosus* = with a conspicuous or large style; *aphyllus* = without leaves.

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***Fimbristylis bisumbellata*** (Forssk.)

Bubani  
(CYPERACEAE)

**Synonyms:** *Scirpus bisumbellatus* Forssk.

**Measurements**

Culm height: 0.10-0.46 m  
 Leaf length: 30-70 mm  
 Leaf width: 1.0-2.8 mm  
 Inflorescence: ± 72 mm  
 Spikelet length: 3-11 mm  
 Nutlet length: 0.65-0.80 mm

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Small to medium, annual, grass-like plant. **Culms:** Erect. **Leaves:** Leaves without a ligule, blades hairy to smooth near the base, hairs sometimes very dense. **Inflorescence:** A dense compound umbel. **Flowers:** Light brown glumes; 2-branched styles dominate in spikelets; spikelets are angled. **Fruit:** Biconvex, pale yellow to silvery white nutlet. **Altitude:** ± 240 m. **Habitat:** Sandy alluvium on river banks, clayey soils, edge of swamps. **Distribution:** Found in MP and LP. **General:** Indigenous species found in the Tropics, India, Malaysia, Australia, Africa and southwards to the FSA region. **Similar species:** *F. squarrosa*, which have hairs on the style bases over the nutlet.

**Origin:** *Fimbriatus* = fringed; *stylosus* = with a conspicuous or large style; *bisumbellata* = double umbrella-like.





**Measurements**

Culm height: 0.10-1.20 m  
Leaf length: 10-350 mm  
Leaf width: NA  
Inflorescence: mm  
Bract length: 10-20 mm  
Spikelet length: 5-8 mm  
Nutlet length: 0.8-1.0 mm

*Fimbristylis complanata* subsp.  
***complanata***  
(CYPERACEAE)

(E : Flattened rush)

**Synonyms :** *Scirpus complanatus* Retz.



Very common, small to medium, perennial, grass-like plant. **Culms:** Flat and Twisted. **Leaves:** Ligule a dense fringe of short white hairs at mouth, across base of leaf blade. **Inflorescence:** Complex clustering of spikelets. **Flowers:** Dark brown spikelet with winged rachilla. **Fruit:** Achenes with varied wart-like protrusions. **Altitude:** 1-1830 m. **Habitat:** Margins of pools, seasonally wet areas, permanent or seasonal pans, marshes, vleis, seepage areas, depressions in damp slopes in grassland. **Distribution:** EC, FS, KZN, MP, LP, NW and GA; also in Swaziland. **General:** Indigenous to South Africa. **Similar species:** None in SA.

**Origin:** *Fimbriatus* = fringed; *stylosus* = with a conspicuous or large style; *complanata* = Levelled or flattened.

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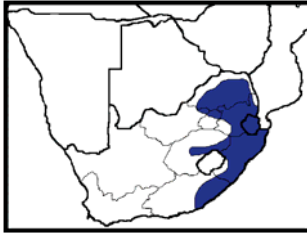
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***Fimbristylis dichotoma*** (L.) Vahl  
(CYPERACEAE)

(A : Biesie)

**Synonyms:** *Fimbristylus diphylla* (Retz.) Vahl;  
*Scirpus dichotomus* L.; *Scirpus diphyllus* Retz.

**Measurements**

Culm height: 0.28-1.26 m  
Leaf length: 360 mm  
Leaf width: 1.3-4.1 mm  
Inflorescence: ± 150 mm  
Spikelet length: 4-11 mm  
Nutlet length: 0.90-1.24 mm

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Medium to large, perennial, grass-like plant. **Culms:** Generally hairless. **Leaves:** Leaf sheaths with well-developed blades; leaf sheaths can be densely hairy. **Inflorescence:** A compound umbel. **Flowers:** Spikelets smoothly rounded; glumes with upper half smooth and dark brown. **Fruit:** Nut surface longitudinally striated under x15 magnification. **Altitude:** 10-1675 m. **Habitat:** Along the edge of rivers, floodplains, boggy peatland areas, wet, marshy grasslands, seepage areas and along damp roadside areas. **General:** Indigenous to South Africa; and occur in tropical to warm areas around the world. **Similar species:** None.

**Origin:** *Fimbriatus* = fringed; *stylosus* = with a conspicuous or large style; *dichotomus* = dividing repeatedly in two.



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**Measurements**

Culm height: < 0.19 m  
Leaf length: mm  
Leaf width: mm  
Inflorescence: mm  
Bract length: mm  
Spikelet length: mm  
Nutlet length:

***Fimbristylis x dregeana* Kunth**  
(CYPERACEAE)

**Synonyms: —**



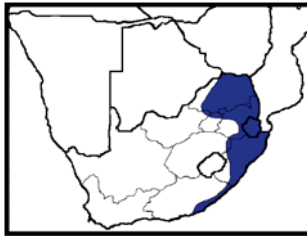
Small, perennial, grass-like plant, up to 0.19 m high. **Culms:** Slender. **Leaves:** Basal leaves. **Inflorescence:** Compact terminal head. **Flowers:** Light brown spikelets. **Fruit:** NA **Altitude:** Up to 50 m. **Habitat:** Grows with other water-loving plants in organically enriched, moist sandy soil; tolerates onshore salt-spray-bearing winds. **Distribution:** **General:** Indigenous. **Similar species:** None.



**Origin:** *Fimbriatus* = fringed; *stylosus* = with a conspicuous or large style; *dregeana* = Named after Johann Dr ge, German horticulturist, botanical collector and traveller who came to the Cape in 1826.

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***Fimbristylis ferruginea*** (L.) Vahl  
(CYPERACEAE)

**Synonyms:** *F. sieberiana* Kunth; *Scirpus ferrugineus* L.

Measurements
Culm height: 0.10-0.80 m
Leaf length: ± 310 mm
Leaf width: 1.2-2.3 mm
Inflorescence: ± 73 mm
Spikelet length: ± 12.25 mm
Nutlet length: 1.25-1.70 mm

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Small to medium, perennial, grass-like plant. **Culms:** Erect. **Leaves:** Short. **Inflorescence:** Paniculate. **Flowers:** One terminal and 1-2 on flower stalks. **Fruit:** Smooth surfaced, yellow nutlets. **Altitude:** 1-1365 m. **Habitat:** Can tolerate growing in brackish water. Coastal marshy areas, along the edge of rivers. **Distribution:** Found in EC, KZN, MP, LP and GA; also in Swaziland. **General:** Indigenous species found in Pantropical and Tropical Africa and extending to the eastern Cape. **Similar species:** *F. sieberiana*, which have wider spikelets and glumes and a more expanded inflorescence.

**Origin:** *Fimbriatus* = fringed; *stylosus* = with a conspicuous or large style; *ferrugineus* = rusty, light reddish brown



## ***FUIRENA* Rottb.**

There are ± 30 species worldwide. There are ± 12 species found in South Africa.

### **Distribution**

These species are reported from EC, KZN, FS, MP, LP, NW and GA.

### **Descriptive characteristics**

Plants can be perennial, underground-creeping, leaf-bearing, medium-sized and tufted, or tall (up to 1.5 m) and more reed-like, or annual, medium to small. The plants can form dense stands, or be inconspicuous between moisture requiring grasses.

Most species, especially the perennials, are hairy. The hairs may be easily visible on leaf margins and inflorescence stems, or minute, covering almost the whole plant, and requires magnification to show their presence (*F. pachyrrhiza*). Floral scales (glumes) are velvety on the outer surface; in some species with occasional long hairs added (*F. umbellata* and *F. hirsuta*). The glumes terminate in upward pointing bristle-like projections (awns) or these awns may be sub-terminal and outward pointing, giving the spikelet a spiky outline and making the genus easy to identify.

### **Habitat**

*Fuirena* is a tropical genus with most species growing in dense stands in permanent water or wet soil fringing lakes, rivers, streamlets or in localized, almost permanent water-holding depressions, wherever temperatures are consistently warm to hot. *F. pachyrrhiza* the most robust perennial, often grows in bush clumps along water lines in the shade.

### **Notes**

When spikelets scales are removed, florets of most species have scales or bristles accompanying, and mostly covering, the small ovary and style. This perianth, typically of 3–3 parts, is extremely variable, from fully developed to microscopic or absent. Attention to its variations has resulted in many named species, that are no more than variants, and which must be treated as synonyms.





***Fuirena hirsuta*** (P.J.Bergius) P.L.Forbes  
(CYPERACEAE)

**Synonyms:** *Cyperus hirsutus* P.J.Bergius; *F. glabra* Kunth; *F. hirta* Vahl; *F. hottentotta* (L.) Druce

**Measurements**

Culm height: 0.45-1.09 m  
 Leaf length: ± 280 mm  
 Leaf width: 9 mm  
 Inflorescence: 6-20 mm  
 Spikelet length: ± 8 mm  
 Nutlet length: 1.3 mm

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Medium to large, perennial, grass-like plant with a woody rhizome. **Culms:** Erect at intervals of 20 mm; bluntly 3-angled; hairless. **Leaves:** Linear with hairy ligule. **Inflorescence:** Pseudo-lateral head with long thin bract sub-tending the inflorescence. **Flowers:** Densely hairy glumes. **Fruit:** Mature nutlet with a long slender stalk and long cylindrical beak; with sometimes papillate projections. **Altitude:** 15-1340 m. **Habitat:** Damp, riverine fringes, or wet situations along coastal regions of southern Africa. **Distribution:** From Namaqualand to MP. **General:** Endemic. There is a marked variation in appearance of plants from the south-western and north-western limits of its distributional range.



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**Origin:** *Fuirena* = Named after George Fuiren, a 16th century Danish physician and botanist in Copenhagen; *hirsutus* = hairy.

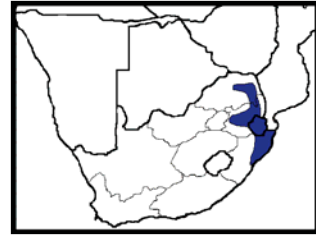


### Measurements

Culm height: < 1.00 m  
Leaf length: NA  
Leaf width: NA  
Inflorescence: 102-203 mm  
Bract length: NA  
Spikelet length: 5-13 mm  
Nutlet length: NA

## *Fuirena pachyrrhiza* Ridl. (CYPERACEAE)

Synonyms: —



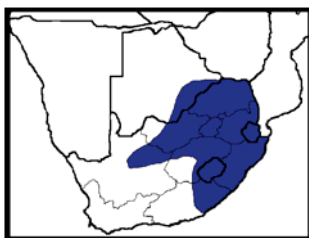
Large, stout, perennial, grass-like plant. **Culms:** 3-sided. **Leaves:** NA **Inflorescence:** Long panicle, with several long peduncled heads. **Flowers:** Compound head with numerous spikelets; glumes dull green. **Fruit:** Small white, transversely granular nutlet. **Altitude:** 455-1370 m. **Habitat:** In damp or wet places around the edge of vleis or streams. **General:** Indigenous species found in Tropical Africa. **Similar species:** The distinction between *F. pachyrrhiza* and *F. pubescens* is not so clear and that is why *F. pachyrrhiza* is reduced to varietal rank as *F. pubescens* var. *ma* or.



**Origin:** *Fuirena* = Named after George Fuiren, a 16th century Danish physician and botanist in Copenhagen; *pachy* = thick; *stachya* = footed



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*Fuirena pubescens* (Poir.) Kunth var.  
***pubescens***  
(CYPERACEAE)

**Synonyms:** *Carex pubescens* Poir.

**Measurements**

Culm height: 0.15-1.00 m  
Leaf length: 10-250 mm  
Leaf width: 4-9 mm  
Inflorescence: NA  
Bract length: NA  
Spikelet length: 6.0-12.7 mm  
Nutlet length: 1.00-1.80 mm

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Hairy perennial, grass-like plant. **Culms:** Hairy and 3-sided. **Leaves:** Flat leaves, midribs and margins of blades hairy. **Inflorescence:** Dull green-brown, panicle with 2 or 3 loose sub-terminal spikes; bracts and inflorescence branches densely hairy. **Flowers:** Glumes greenish brown; whorl around ovary sometimes absent; hairy. **Fruit:** Opaque white, smooth nutlet. **Altitude:** 5-2195 m. **Habitat:** Seasonally flooded area, swamp, marshes, vleis. **Distribution:** Widespread in EC, FS, KZN, LP, NW, GA and NC; also found in Botswana. **General:** Indigenous specie found from Europe, Asia Minor, India, Africa extending to the FSA region.

**Origin:** *Fuirena* = Named after George Fuiren, a 16th century Danish physician and botanist in Copenhagen; *pubescens* = downy, with soft hair





**Measurements**

Culm height: 0.30-0.75 m  
Leaf length: NA  
Leaf width: NA  
Inflorescence: NA  
Bract length: NA  
Spikelet length: NA  
Nutlet length: NA

*Fuirena stricta* Steud. var.  
*chlorocarpa*  
(CYPERACEAE)



**Synonyms:** *F. chlorocarpa* Ridl.; *F. stricta* subsp. *chlorocarpa*; *Fuirena stricta* Steud.



Medium, perennial, grass-like plant. **Culms:** Slender, sharply angular to almost winged. **Leaves:** Flat leaves, midribs and margins of blades hairy. **Inflorescence:** Panicle. **Flowers:** Narrow cylindrical spikelets; sporadically glumes dull green and orange, with awns 0.2-1.0 mm long; 3 bristles around the ovary. **Fruit:** Dull-brown with greenish tiny, nutlet. **Altitude:** 50-1670 m. **Habitat:** Along the edge of permanent streams, often rooted in water, vleis and pans. **Distribution:** Found in GA and MP. **General:** Indigenous specie that is also found in Tropical Africa and Madagascar. **Similar species:** *F. pachyrrhiza* and *F. pubescens*.

**Origin:** *Fuirena* = Named after George Fuiren, a 16th century Danish physician and botanist in Copenhagen; *strictus* = upright, erect, tight

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## *Hellmuthia* Steud.

There is one species worldwide and in South Africa, namely *Hellmuthia membranacea*.

### **Distribution**

This specie is reported from WC, in coastal areas from Knysna to the Cape Peninsula.

### **Descriptive characteristics**

Plants are approximately 0.50 m tall, with strong underground creeping rootstock and hard leaves. Spikelets are large and conspicuous.

### **Habitat**

These plants are found in sandy depressions between coastal dunes or in the shade of denser vegetation in moist sand.

### **Notes**

This is an unusual plant that should be protected. Botanically is curious, for in its construction it has features that indicate modification by reduction and specialization from a *Scoenoplectus*-type ancestral heritage, towards the specifically Cape genus *Ficinia*. Formerly it was known as *Scirpus membranacea*, but it is not related to other species of *Scirpus*. The present name *Hellmuthia* dates back to 1855, when it was published to the honour of the son of the botanist Steudel, whose first name was Hellmuth.



### Measurements

Culm height: 0.3-0.8 m  
Leaf length: ± 300 mm  
Leaf width: 1-3 mm  
Inflorescence: 10-30 mm  
Bract length: NA  
Spikelet length: 20 mm  
Nutlet length: 2.2-2.6 mm

## *Hellmuthia membranacea*

(Thunb.) R. Haines & K. Lye  
(CYPERACEAE)

(A: biesie)

**Synonyms:** *Ficinia canaliculata* Pfeiff; *Scirpus membranaceae* Thunb.



Medium sized, tufted, perennial, reed-like plant. **Culms:** Thin, slender and green. **Leaves:** Sheaths. **Inflorescence:** Panicle with 2-10 spikelets with 2-5 bracts overtopping the inflorescence. **Spikelets:** Dark-brown clustered spikelets. **Altitude:** Up to 500 m. **Habitat:** Coastal sands sometimes around borders of vleis. **Distribution:** Found from Saldanha to Knysna. **General:** Indigenous specie found in Pantropical and Sub-tropical Africa and southwards to the FSA region. These plants are used for ethnomedicinal purposes.

**Origin:** *Hellmuthia* = helmet-like, but named after a son of the botanist Streudel ; *membranaceus* = like skin or membrane.

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## ***ISOLEPIS* R. Br.**

There are ± 70 species worldwide. There are ± 30 species in South Africa.

### **Distribution**

These species are reported from WC, EC, KZN, FS, MP, LP, NW, GA and NC. The main concentrations of these species are found in the WC, but they are also well represented in wet situations at higher altitudes.

### **Descriptive characteristics**

In general, plants are soft and delicate, usually not exceeding 0.25 m; some are erect, others are rooted in soil but with the remainder of the plant inundated, or only partially emergent. *I. natans* and *I. prolifer* have leaf blades reduced to small outgrowths from the often purplish leaf sheaths. *I. fluitans* is widespread, extremely variable in size in relation to habit conditions, either marginal to or into water, branching, leaf-bearing, with a solitary spikelet, lacking a conspicuous bract, that terminates a length of bare stem.

### **Habitat**

*Isolepis* spp. are essentially associated with wet habitats, mostly growing fringing permanently freshwater bodies, where levels fluctuate frequently; also in sandy seepages, or in rocky pools that hold water almost permanently.

### **Notes**

Inflorescences often comprise only few spikelets: style branches varying from 2-3; nutlets most commonly 3-angled.



#### Measurements

Culm height: 0.02- 0.05 m  
Leaf length: 8-37 mm  
Leaf width: 0.2-0.7 mm  
Inflorescence: mm  
Bract length: 6-25 mm  
Spikelet length: 2.3-9.0mm  
Nutlet length: 0.7-1.0 mm

## *Isolepis brevicaulis* (Levyns) J.Raynal (CYPERACEAE)

**Synonyms:** *Scirpus brevicaulis* Levyns; *Scirpus burchellii* C.B.Clarke



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Minute, slender, tufted, annual, grass-like plant. **Culms:** Round with single internode. **Leaves:** Basal, with blade shorter than culm. **Inflorescence:** Pseudolateral with 1-3 spikelets. **Spikelets:** Green spikelets with spirally arranged glumes. **Nutlets:** Lenticular or trigonous nutlet with a tuberculate surface. **Altitude:** 100-1220 m. **Habitat:** Around the margin of pools also in seasonally wet areas and along streambanks. **General:** Endemic species that occur widespread in the Northern and Western Cape.

**Origin:** *Iso* = equal; *lepis* = a scale; *brevicaulis* = short-stemmed

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***Isolepis cernua*** (Vahl) Roem. & Schult. var.  
***cernua***  
 (CYPERACEAE)

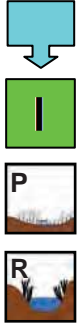
Measurements
Culm height: 0.07-0.30 m
Leaf length: 1-122 mm
Leaf width: 0.1-0.7 mm
Bract length: 2-22 mm
Spikelet length: 2-9 mm
Nutlet length: 0.5-1.2 mm

**Synonyms:** *I. chlorostachya* Nees; *I. microcarpa* Nees; *I. rupestris* Kunth; *I. subprolifer* Boeck.; *Scirpus cernuus* Vahl; *Scirpus pictus* Boeck.

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Small, tufted, annual, grass-like plant. **Culms:** Round with single internode. **Leaves:** Basal with blades shorter than culm. **Inflorescence:** Leaf-like bract overtopping 1-4 spikelets on inflorescence. **Spikelets:** Green to dark brown spikelets; glumes boat-shaped, whitish, conspicuously green-keeled and spirally arranged. **Nutlets:** Three-sided, ovate to obovate, not beaked. **Altitude:** 3-1830 m. **Habitat:** Seasonally wet areas, including salt marshes, river banks and damp sites in grassland. **Distribution:** Found in WC, EC, KZN, FS, MP, LP, NW, GA and NC; Also in Namibia. **General:** Indigenous specie found widespread in both northern and southern hemispheres, but absent from tropical areas. Used for ethnomedicinal purposes.

**Origin:** *Iso* = equal; *lepis* = a scale; *cernuus* = drooping, down-turned



#### Measurements

Culm height: 0.10-0.80 m  
Leaf length: 1-9 mm  
Leaf width: 0.1-0.8 mm  
Bract length: 2-7 mm  
Spikelet length: 1.4-5.5 mm  
Nutlet length: 0.7-1.3 mm

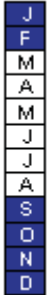
### *Isolepis costata* Hochst. ex A.Rich. (CYPERACEAE)

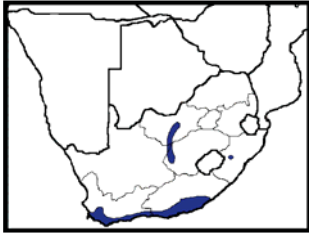
**Synonyms:** *I. costata* A.Rich. var. *macra* (Boeck.) B.L.Burt; *Scirpus costatus* (A.Rich.) Boeck.; *Scirpus costatus* (A.Rich.) Boeck. var. *macer* (Boeck.) Cherm.; *Scirpus macer* Boeck.



Small to medium, tufted, perennial, grass-like plant. **Culms:** Slender, round with a single internode. **Leaves:** Absent or reduced to a lobe < 10 mm. **Inflorescence:** Terminal head with 1-25 spikelets. **Spikelets:** Green to dull brown spikelet; glumes spirally arranged. **Nutlets:** Nutlets trigonous; surface with longitudinal ribs and dense transverse bars connecting the ribs. **Altitude:** 230-5540 m. **Habitat:** Upland seepage areas or along streams in montane forests and swamps. **Distribution:** Scattered in the WC; common in the EC, FS, KZN, MP, LP, NW and Gauteng; also found in Swaziland. **General:** Indigenous specie found widespread in Madagascar and tropical Africa: Ethiopia, Sudan, Kenya, Uganda, Tanzania, Rwanda, Burundi, Congo, Malawi, Zambia Zimbabwe.

**Origin:** *Iso* = equal; *lepis* = a scale; *costatus* = ribbed





***Isolepis diabolica*** (Steud.) Schrad.  
(CYPERACEAE)

**Synonyms:** *Ficinia antarctica* (L.) Nees ex Kunth; *I. antarctica* (L.) Nees, illegitimate name; *Scirpus antarcticus* L. in part; *Scirpus diabolicus* Steud

**Measurements**

Culm height: < 0.50 m  
Leaf length: 60-309 mm  
Leaf width: 0.4-1.0 mm  
Bract length: 6-46 mm  
Spikelet length: 3.2-9.8 mm  
Nutlet length: 0.8-1.3 mm

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Small, perennial, grass-like plant. With creeping stolon. **Culms:** Slender, round with single internode. **Leaves:** Basal, blade shorter than culm. **Inflorescence:** Pseudolateral with 2-10 spikelets; long single bract. **Spikelets:** Straw-coloured and dark red spikelets; glumes spirally arranged. **Nutlets:** Three-sided; surface with longitudinal ribs and dense transverse bars connecting the ribs. **Altitude:** 40-2195 m. **Habitat:** Marshes, watercourses, seasonally wet seepage areas and roadside ditches. **Distribution:** Found in the WC, EC, FS, KZN and NW. **General:** Indigenous and endemic.

**Origin:** *Iso* = equal; *lepis* = a scale; *diabolicus* = Like a devil.



©



#### Measurements

Culm height: 0.15-0.80 m  
Leaf length: 22-360 mm  
Leaf width: 0.5-1.0 mm  
Bract length: 2-52 mm  
Spikelet length: 4.5-14.2mm  
Nutlet length: 0.9-1.3 mm

## *Isolepis digitata* Schrad. (CYPERACEAE)

**Synonyms:** *Eleogiton digitatus* (Schrad.) Nees;  
*Eleogiton digitatus* (Schrad.) Nees var. *dissolutus*  
Nees; *Eleogiton longifolius* Nees; *I. dissoluta* (Nees)  
Kunth; *I. dubia* Kunth; *Scirpus*  
*digitatus* (Schrad.) Boeck.; *Scirpus flaccifolius* Steud.



En



Small to medium, tufted perennial, grass-like plant. **Culms:** Very short and clustered and covered in leaf sheaths; bulblike below. **Leaves:** Basal, somewhat inflated sheaths at base of culms; pale-brown to straw coloured; blades linear, at times longer than culm. **Inflorescence:** Terminal head of 1-8 spikelets. **Spikelets:** Ovoid spikelets; 14-43 flowered; glumes spirally arranged; ovate, straw-coloured to reddish-brown, midrib green ending in a sharp tip. **Nutlets:** Smooth, brown nutlets; elliptic, 3-sided and pyramidal at tip. **Altitude:** 245-1005 m. **Habitat:** Fast flowing streams forming dense clusters on rock surfaces. **General:** Endemic species, restricted to the Western and Eastern Cape Region.

**Origin:** *Iso* = equal; *lepis* = a scale; *digitatus* = hand-shaped, with fingers

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***Isolepis fluitans* (L.) R.Br. var. *fluitans***  
(CYPERACEAE)

(A: Waterbiesie, watergras)

**Synonyms:** *Eleogiton fascicularis* Nees; *I. fascicularis* (Nees) Kunth; *Scirpus fluitans* L.; *Scirpus fluitans* L. var. *fascicularis* (Nees) Boeck.; *Isolepis fluitans* (L.) R. Br.

**Measurements**

Culm height: 0.06-1.06 m  
Leaf length: 2-80 mm  
Leaf width: 0.2-1.1 mm  
Bract length: 2-12 mm  
Spikelet length: 2.4-9.4 mm  
Nutlet length: 0.9-1.8 mm

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Aquatic perennial, grass-like plant, submerged or free-floating or emergent hydrophyte. **Culms:** Slender and branching, with many internodes, sometimes rooting at nodes, round or flattened sometimes bearing short leafy lateral shoots. **Leaves:** Occurring at all internodes; shorter than peduncle. **Inflorescence:** A single terminal spikelet with bract shorter than the spikelet and glume-like. **Spikelets:** Green spikelets with spirally arranged glumes. **Nutlets:** Lenticular with smooth surface. **Altitude:** 90-3050 m. **Habitat:** Submerged or floating in water in seepage areas or bogs. **Distribution:** Found in EC, FS, KZN, MP, LP, NW and GA. **General:** Indigenous species that is widespread in Europe, India, Australia, New Zealand and tropical Africa. Absent in the WC where similar habitat is occupied by *Isolepis striata*.

**Origin:** *Iso* = equal; *lepis* = a scale; *fluitans* = From the Greek word fluito meaning floating.



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CJC ©



CJC ©

#### Measurements

Culm height: 0.02-0.10 m  
Leaf length: 3-39 mm  
Leaf width: 0.2-0.6 mm  
Bract length: 3-13 mm  
Spikelet length: 1.6-4.2 mm  
Nutlet length: 0.6-0.8 mm

## *Isolepis hystrix* (Thunb.) Nees (CYPERACEAE)

(A: Biesie)

**Synonyms:** *I. dregeana* Kunth; *Scirpus hystrix* Thunb.



En



Small, densely tufted, annual, grass-like plant. **Culms:** Round, with single internode. **Leaves:** Basal with blade shorter than culm. **Inflorescence:** Head-like cluster with 1-3 spikelets. **Spikelets:** Green spikelets; with a mucro up to 2/3 as long as glume. **Nutlets:** Three-sided nutlet; ovate to obovate; not beaked with a papillose surface. **Altitude:** 20-1645 m. **Habitat:** Seasonally wet open areas or in roadside ditches. **Distribution:** Found in the WC and NC. **General:** Endemic species to the Northern and Western Cape and introduced in Australia.

**Origin:** *Iso* = equal; *lepis* = a scale; *hystrix* = spiny, like a porcupine

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***Isolepis incomtula*** Nees  
(CYPERACEAE)

**Synonyms:** *I. echinidium* Nees; *I. exilis* Nees; *I. kunthiana* Steud.

**Measurements**

Culm height: 0.02-0.05 m  
Leaf length: 11-51 mm  
Leaf width: 0.3-0.6 mm  
Bract length: 3-16 mm  
Spikelet length: 2.5-6.8 mm  
Nutlet length: 0.5-0.8 mm

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Minute, tufted, annual, grass-like plant. **Culms:** Round, with a single internode; frequently brown. **Leaves:** Filiform, basal; blade shorter than culm. **Inflorescence:** Usually head-like; 2-10 spikelets. **Spikelets:** Green with white or red edged spikelets; glumes in 5 longitudinal rows. **Nutlets:** Three-sided to globose nutlet, with papillose surface. **Altitude:** 15-730 m. **Habitat:** Muddy flats or wet, sandy pockets in sandstone and along streams. **Distribution:** Found in the WC, EC, FS, KZN, MP, NW, GA and NC. **General:** Indigenous and endemic specie to the Cape region from Namaqualand to Eastern Cape.

**Origin:** *Iso* = equal; *lepis* = a scale; *incomtulus* = Unadorned, rough, undecorated.



MM ©

**Measurements**

Culm height: 0.02-0.03 m  
Leaf length: 5-22 mm  
Leaf width: 0.2-0.3 mm  
Bract length: 2-3 mm  
Spikelet length: 2-5 mm  
Nutlet length: 1.4-2.2 mm

***Isolepis inconspicua*** (Levyns) J.Raynal

(CYPERACEAE)

**Synonyms:** *Scirpus inconspicuus* Levyns



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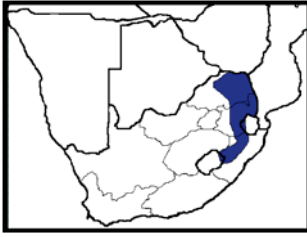
Minute, tufted, annual, grass-like plant. **Culms:** Round with single internode. **Leaves:** Basal with blade shorter than the culm. **Inflorescence:** Appear terminal as the glume-like bract is shorter than the single spikelets. **Spikelets:** Reddish spikelets; glumes spirally arranged and successive glumes not overlapping. **Nutlets:** Three-sided nutlet; linear, not beaked with a smooth surface. **Altitude:** Up to 300 m. **Habitat:** Seasonally flooded areas, up to 300 m. **Distribution:** Found in the WC. **General:** Endemic endangered species found in the South Western Cape.

**Origin:** *Iso* = equal; *lepis* = a scale; *inconspicua* = not easily seen

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***Isolepis inyangensis*** Muasya & Goetgh.  
(CYPERACEAE)

**Synonyms:** —

**Measurements**

Culm height: 0.05-0.37 m  
 Leaf length: 1-61 mm  
 Leaf width: 0.3-0.8 mm  
 Bract length: 2-4 mm  
 Spikelet length: 4.7-9.3 mm  
 Nutlet length: 0.9-1.2 mm

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Small to medium, erect, tufted, annual or short-lived perennial, grass-like plant. **Culms:** Round, many-noded. **Leaves:** Occurring at all internodes; shorter than peduncle. **Inflorescence:** Single, terminal spikelet; with bract shorter than the spikelet and glume-like. **Spikelets:** Green with brown variegated spikelet; glumes spirally arranged; over 20 flowers per spikelet. **Fruit:** Lenticular nutlet with a smooth surface. **Altitude:** 1500-2300 m. **Habitat:** Seepage and seasonally flooded grasslands. Plants can form floating mats on the water's surface. **Distribution:** Found in KZN, MP and LP; also in Swaziland. **General:** Indigenous specie found from Zimbabwe and extending southwards to the FSA region. **Similar species:** *I. fluitans*, which has a sprawling habit with only 10-15 flowers per spikelet.



**Origin:** *Iso* = equal; *lepis* = a scale; *inyangensis* = From the Nyanga (Inyanga) area of the east Highlands of Zimbabwe.



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#### Measurements

Culm height: 0.07-0.10 m  
Leaf length: NA  
Leaf width: NA  
Bract length: NA  
Spikelet length: 4-8 mm  
Nutlet length: 0.1-1.0 mm

## *Isolepis levynsiana* (CYPERACEAE)



**Synonyms:** *Cyperus tenellus* L.f.; *Cyperus tenellus* var. *micromegas*; *Cyperus micromegas*; *Cyperus tenellus* var. *tenellus*; *Cyperus tenellus* var. *gracilis*



En



Small, tufted, annual, grass-like plant. **Culms:** Filliform, 3-sided to compressed. **Leaves:** Filliform, shorter than culms. **Inflorescence:** A pseudolateral, digitate cluster of 1-4 sessile spikelets; with leaf-like bracts, one erect and can be shorter or longer than inflorescence. **Flowers:** Greenish flattened spikelets with red-brown tinges; glumes obtuse or shortly acuminate. **Fruit:** Pale to mid-brown, 3-sided nutlet. **Altitude:** 100 to 1275 m. **Habitat:** Seasonally wet areas, stream banks. **Distribution:** Found in the WC, EC and EC. **General:** Indigenous specie found in South Africa and Australia.

**Origin:** *Iso* = equal; *lepis* = a scale; *levynsiana* = Named after Dr Margaret Levyns (1890-1975) whom contributed extensively to the knowledge on *Cyperaceae* in the Western Cape.

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***Isolepis leucoloma*** (Nees) C. Archer  
(CYPERACEAE)

**Synonyms:** *Cyperus leucoloma* Nees

**Measurements**

Culm height: 0.02-0.05 m  
Leaf length: 2-5 mm  
Leaf width: mm  
Bract length: 13 mm  
Glume length: NA  
Nutlet length: NA

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Minute, tufted, annual, grass-like plant. **Culms:** Filliform. **Leaves:** Filiform and reddish at base. **Inflorescence:** A pseudolateral, digitate cluster of flattish, sessile spikelets. **Spikelets:** Dark brown with white margins. **Fruit:** Small nutlets. **Altitude:** 150-1000 m. **Habitat:** Damp, often disturbed flats near water, mostly below 1000 m. **Distribution:** Found from the Cedarberg Mountains to Cape peninsula. **General:** Indigenous vulnerable species. **Similar species:** *I. incomptula*.

**Origin:** *Iso* = equal; *lepis* = a scale; *leo* = lion; *collum* = neck



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MM ©



#### Measurements

Culm height: 0.03-0.15 m  
Leaf length: < 40 mm  
Leaf width: NA  
Bract length: NA  
Spikelet length: NA  
Nutlet length: 0.8-1.2 mm

### *Isolepis marginata* (Thunb.) A. Dietr. (CYPERACEAE)

**Synonyms:** *Cyperus minutes* Roth; *Ficinia marginata* (Thunb.) Fourc.; *I. cartilaginea* R. Br.; *I. chrysocarpa* Nees; *I. phaeocarpa* Nees; *Scirpus cartilagineus* R.Br.



En



Small, tufted, annual, grass-like plant. **Culms:** Filliform. **Leaves:** With blades and shorter than culm. **Inflorescence:** Pseudolateral Inflorescence with 1-6 (rarely 12) spikelets. **Flowers:** Spikelets straw-coloured and dark red. **Fruit:** Straw-coloured to dark-brown nutlet 3-sided, obovoid to ellipsoid or broadly ellipsoid, rounded or reticulated surface. **Altitude:** 5-1200 m. **Habitat:** Dunes, flats, slopes and seasonally damp sandy soil. **Distribution:** Found in the WC and EC, and NC. **General:** Endemic specie found also naturalised in Australia.

**Origin:** *Iso* = equal; *lepis* = a scale; *marginatus* = with a distinct margin, edge or border.

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***Isolepis minuta*** (Turrill) J. Raynal  
(CYPERACEAE)

**Synonyms:** *Scirpus minutus* Turrill

**Measurements**

Culm height: < 0.05 m  
Leaf length: 2-19 mm  
Leaf width: 0.1-0.3 mm  
Bract length: 2-9 mm  
Spikelet length: 1.9-3.9 mm  
Nutlet length: 0.5-0.9 mm

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Minute, annual, grass-like plant. **Culms:** Terete, single internode. **Leaves:** basal, blade shorter than culm. **Inflorescence:** Pseudolateral, 1-6 spikelets. **Flowers:** Green to brown spikelets, spirally arranged glumes. **Fruit:** 3-sided nutlet, surface smooth. **Altitude:** 500-1000 m. **Habitat:** Seasonally wet areas. **Distribution:** Found in the WC in the Ceres and Piketberg districts. **General:** Endemic data deficient species from the Western Cape.

**Origin:** *Iso* = equal; *lepis* = a scale; *minutus* = very small.



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### Measurements

Culm height: 0.05-0.30 m  
Leaf length: 1-182 mm  
Leaf width: 0.02-2.10 mm  
Bract length: 3-14 mm  
Spikelet length: 2.1-6.1 mm  
Nutlet length: 0.7-1.0 mm

## *Isolepis natans* (Thunb.) A.Dietr. (CYPERACEAE)

**Synonyms:** *I. hystrix* Schrad., *illegitimate name*; *I. pallida* Nees; *I. palustris* Schrad.; *I. rivularis* Schrad.; *Scirpus natans* Thunb.; *Scirpus rivularis* (Schrad.) Boeck.



Small to medium, annual, to short-lived perennial, grass-like plant, emergent hydrophyte. **Culms:** Light green, terete, hollow, 4-27 cm long, 0.3-1 mm wide. **Leaves:** Basal, flattened, sheathing at the base. **Inflorescence:** Appears lateral, because of continued leaf-like bract, 2-5 crowded, sessile, spikelets. **Flowers:** Spikelets ovoid, 8-55 flowered; glume ovate, reddish-brown to dark brown; midrib green, ending below the tip, tip rounded. **Fruit:** Nuts ellipsoid, 3-sided, yellowish-brown when young with a small terminal beak. **Altitude:** 30-1525 m. **Habitat:** Slow flowing streams, wet marshy areas. KZN, WC, EC and MP. **General:** Indigenous specie from Angola, Zimbabwe, southwards to the FSA region.

**Origin:** *Iso* = equal; *lepis* = a scale; *natans* = swimming or floating.

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***Isolepis prolifer*** (Rottb.) R.Br.  
(CYPERACEAE)

(A : vleigras; : incapha)

**Synonyms:** *Scirpus prolifer* Rottb.

**Measurements**

Culm height: 0.10-0.60 m  
Leaf length: 1-3 mm  
Leaf width: 0.2-0.7 mm  
Bract length: 3-9 mm  
Spikelet length: 3.1-12 mm  
Nutlet length: 0.7-1.2 mm

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Moderately, robust perennial, grass-like plant. **Culms:** Light green, terete, smooth and with single internode. **Leaves:** Basal, reduced to reddish to light brown, papery sheaths. **Inflorescence:** Compound, pseudolateral or terminal heads, often forming new plants within the flowerhead. **Flowers:** Spikelets light brown, spirally arranged glumes. **Fruit:** 3-sided nutlet with a smooth surface. **Altitude:** 1-1500 m. **Habitat:** Seepage and streams, floating or partially submerged. **Distribution:** WC, EC, KZN and MP; also in Lesotho. **General:** Indigenous specie found from Australia, New Zealand, St Helena, Tristan da Cunha extending to the FSA region.



**Origin:** *Iso* = equal; *lepis* = a scale; *proliferus* = free-flowering, or reproducing by off-shoots.



#### Measurements

Culm height: < 0.1 m  
Leaf length: 7-45 mm  
Leaf width: 0.1-0.3 mm  
Bract length: < 2 mm  
Spikelet length: 3.0-7.2 mm  
Nutlet length: 0.7-1.3 mm

## *Isolepis pusilla* Kunth (CYPERACEAE)



**Synonyms:** *I. atro-purpurea* Nees, illegitimate name; *I. tenuis* (Spreng.) Schrad., illegitimate name; *Scirpus nanodes* Levyns; *Scirpus tenuis* Spreng., illegitimate name



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Small, slender, annual or short-lived perennial, leaf-less, grass-like plant. **Culms:** Terete with a single internode. **Leaves:** basal, blade shorter than culm. **Inflorescence:** terminal, 1 spikelet. **Flowers:** Spikelets reddish with green keels, spirally arranged glumes. **Fruit:** Dark brown to black nutlet, elliptic, 3-sided, surface minutely papillose. **Altitude:** Up to 600 m. **Habitat:** Seasonally wet, marshy grasslands, including lightly brackish water on damp mountain slopes. Early coloniser of wet alluvium or other disturbed areas. **Distribution:** Found in the WC, in the Cape Peninsula and scattered localities into the Cedarberg and Van Rhy'n's Pass. **General:** Endemic specie.

**Origin:** *Iso* = equal; *lepis* = a scale; *pusillus* = very small

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***Isolepis rubicunda*** ~~Error!~~  
*Bookmark not defined.* (Nees) Kunth  
(CYPERACEAE)

**Synonyms:** *Eleogiton rubicundus* Nees; *Scirpus globiceps* C.B.Clarke; *Scirpus rubicundus* (Nees) Parl.

**Measurements**

Culm height: < 0.30 m  
Leaf length: 2-29 mm  
Leaf width: 0.3-0.7 mm  
Bract length: 3-4 mm  
Spikelet length: 3.2-5.4 mm  
Nutlet length: 1.1-1.9 mm

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Often submerged, mat-forming, perennial, grass-like plant. **Culms:** Slender and with many internodes, peduncle to 20 cm tall. **Leaves:** Occurring at all internodes, shorter than peduncle; without a ligule. **Inflorescence:** A single terminal spikelet, bract shorter than spikelet and glume-like, not proliferating. **Flowers:** Green to brown spikelets, spirally arranged glumes. **Fruit:** Nutlet lenticular with a smooth surface. **Altitude:** 10-100 m. **Habitat:** Seasonally flooded area and wet, sandy places in flats. **Distribution:** Found in the WC from Cape Peninsula to Cape Agulhas. **General:** Endemic specie.

**Origin:** *Iso* = equal; *lepis* = a scale; *rubicunda* = red or reddish in colour.



En



MM ©

#### Measurements

Culm height: 0.08-0.30 m  
Leaf length: 5-43 mm  
Leaf width: 0.1-0.4 mm  
Bract length: 2-16 mm  
Spikelet length: 1.3-4.9 mm  
Nutlet length: 0.5-0.8 mm

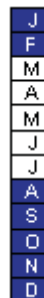
## *Isolepis sepulcralis* Steud. (CYPERACEAE)

**Synonyms:** *I. chlorostachya* (Levyns) Soj k, illegitimate name; *I. subtilis* Kunth; *Scirpus cernuus* Vahl var. *subtilis* (Kunth) C.B. Clarke; *Scirpus chlorostachyus* Levyns; *Scirpus griquensium* C.B. Clarke

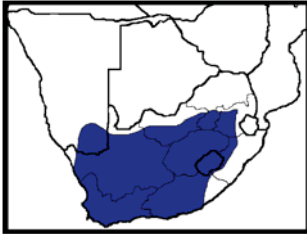


Small, tufted annual, grass-like plant. **Culms:** Terete, single internode. **Leaves:** basal, blade shorter than culm. **Inflorescence:** 2-5 spikelets, pseudolateral. **Flowers:** Green to dark brown spikelets, glumes spirally arranged with point recurved and with narrow keel. **Fruit:** Nutlets beaked, blackish and ellipsoid. **Altitude:** 5-2125 m. **Habitat:** Along edge of streams, margins of pools. **Distribution:** Found in WC, EC, KZN and NC. **General:** Indigenous specie found from St Helena and Tristan da Cunha Islands, Madagascar, wide spread in Africa: Kenya, Tanzania, Zimbabwe extending to FSA region.

**Origin:** *Iso* = equal; *lepis* = a scale; *sepulcralis* = of a tomb



CHS ©



***Isolepis setacea*** Nees  
(CYPERACEAE)

(SS: boleanyana)

**Synonyms:** *Scirpus setaceus* L.

**Measurements**

Culm height: 0.02-0.30 m  
 Leaf length: 5-100 mm  
 Leaf width: 0.1-0.7 mm  
 Bract length: 2-23 mm  
 Spikelet length: 2.0-6.5 mm  
 Nutlet length: 0.7-1.3 mm

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Annual to short-lived perennial, tufted, grass-like plant. **Culms:** terete, single internode **Leaves:** basal, blade shorter than culm. **Inflorescence:** Do not form new plants in inflorescence (see *Isolepis prolifer* page 121); with 1-3 spikelets. **Flowers:** Spikelets green to dark brown, glumes spirally arranged **Fruit:** 3-sided nutlet, brown and longitudinally ribbed. **Altitude:** 900-3200 m. **Habitat:** Waterlogged soil sometimes in water or riversides. **Distribution:** Found in the EC, KZN, FS, MP, LP, NW, GA and NC; also in Namibia, mountains of tropical Africa. **General:** Indigenous specie.

**Origin:** *Iso* = equal; *lepis* = a scale; *setaceus* = bristly.





#### Measurements

Culm height: < 0.30 m  
Leaf length: 1-62 mm  
Leaf width: 0.1-0.5 mm  
Bract length: 1-9 mm  
Spikelet length: ± 3.00 mm  
Nutlet length: 0.7-0.9 mm

## *Isolepis sororia* Kunth (CYPERACEAE)

**Synonyms:** *Scirpus sororius* (Kunth) C.B.Clarke



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Small, tufted annual, grass-like plant. **Culms:** Slender, terete, single internode. **Leaves:** basal, blade shorter than culm. **Inflorescence:** Pseudolateral to capitate head with 1-3 spikelets. **Flowers:** Spikelets green to dark brown, glumes spirally arranged and boat-shaped. **Fruit:** Nutlets globose to sub-globose, brown, reticulate. **Altitude:** 60-600 m. **Habitat:** Seasonal, wet, marshy grasslands, seepage areas, marshes, vleis. **Distribution:** Found in the WC, EC, NC and FS. **General:** Endemic to Cape Flora Region.

**Origin:** *Iso* = equal; *lepis* = a scale; *sororis* = a sister.

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***Isolepis striata*** (Nees) Kunth  
(CYPERACEAE)

**Synonyms:** *Eleogiton striatus* Nees; *I. robustula* Steud.; *Scirpus capillifolius* Parl.; *Scirpus fluitans* L. var. *robustus* Boeck.; *Scirpus striatus* (Nees) Fourc.

**Measurements**

Culm height: ± 0.20 m  
Leaf length: 3-74 mm  
Leaf width: 0.3-1.2 mm  
Bract length: 3-4 mm  
Spikelet length: 3.5-8.2 mm  
Nutlet length: 1.5-1.9 mm

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Mat-forming, aquatic perennial, grass-like plant,. **Culms:** Slender and branching with many internodes, peduncle to 20 cm tall. **Leaves:** occurring at all internodes, at times longer than peduncle. **Inflorescence:** a single terminal spikelet, bract shorter than spikelet and glume-like. **Spikelet:** green spirally arranged glumes. **Fruit:** Lenticular nutlet, with surface striolate. **Altitude:** 100-1250 m. **Habitat:** Floating in shallow water or growing in mud. **General:** Endemic species widespread in mountain streams in Western Cape, from Cedarberg to Uitenhage.

**Origin:** *Iso* = equal; *lepis* = a scale; *striata* = striped or grooved.



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## ***KYLLINGA* Rottb.**

There are ± 60 species worldwide of which ± 13 species are found in South Africa.

### **Distribution**

These species are reported from WC, EC, KZN, FS, MP, LP, NW, GA and NC.

### **Descriptive characteristics**

The inflorescence consists of a single, terminal, either round or cylindrical head of short, compact spikelets. These spikelets can be white, yellow, green or purplish brown. The spikelets can be accompanied or not by 1-3 lateral, sessile inflorescences. The flattened spikelets resemble those of *Cyperus* or *Pycreus*, but in *Kyllinga* are made up of 1-5 glumes, of which the upper glume does not always contain a floret. The style branches are always 2; the edge of the glume is sometimes expanded into a wing, but the degree of development may vary within the same inflorescence.

### **Habitat**

Plants may be tufted perennials that vary in height; or may be underground-creeping plants that form locally pure stands in wet to damp, often shaded habitats; or it may sprawl rather untidily along streamlet margins and into water in full sun.

### **Notes**

As a guide to identification, the colour of the inflorescence is useful.





***Kyllinga erecta*** Schumach. var. *erecta*  
(CYPERACEAE)

(E: greater kyllinga, white kyllinga, white sedge; A: witbiesie, wit kyllinga, uintjie)

**Synonyms:** *K. erecta* Schumach. var. *intricata* C.B.Clarke, never published; *K. intricata* Cherm.

**Measurements**

Culm height: 0.05-0.55 m  
Leaf length: 50-200 mm  
Leaf width: 2-4 mm  
Inflorescence: mm  
Bract length: 50-150 mm  
Spikelet length: 2.5-3.0 mm  
Nutlet length: ± 1.2 mm

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Very small to medium, perennial, grass-like plant with a well developed rhizome. **Culms:** Thin and erect with swollen bases. **Leaves:** Absent. **Inflorescence:** Yellow with upright bracts. **Flowers:** Spikelets golden-brown. **Fruit:** Skewed with little knobs on die surface. **Altitude:** 2-2200 m. **Habitat:** Open wet, swampy grasslands and in marshes or vleis, occasionally a ruderal. **General:** Widespread indigenous species that is occasionally a weed or a ruderal. Plants are used ethnomedicinally. **Similar species:** *K. polyphylla*.

**Origin:** *Kyllinga* = named after P Kylling, a danish botanist; *erecta* = upright.



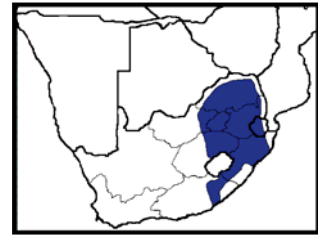
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#### Measurements

Culm height: 0.17-1.00 m  
Leaf length: NA  
Leaf width: NA  
Inflorescence: 6-12 mm  
Bract length: NA  
Spikelet length: 3.0-4.5 mm  
Nutlet length: 1.5-2.0 mm

## *Kyllinga melanosperma* Nees (CYPERACEAE)

Synonyms: -



A robust, perennial grass-like plant with a creeping rhizome covered in brown to blackish sheaths. **Culms:** Crowded, 3-sided to almost winged. **Leaves:** Leaf blades only on the upper two sheaths if present at all; lower sheaths membranous, brown to purplish. **Inflorescence:** Single cylindrical inflorescence, with 3 bracts pointing downwards. **Flowers:** Glumes yellowish green. **Fruit:** Brown to black, laterally flattened nutlet. **Altitude:** 5-1675 m. **Habitat:** Forms dense, conspicuous stands along streamlet margins, always near water. **General:** Widely distributed in southern Africa. Indigenous. Culms are used for making beer sieves, the sweet scented roots are pounded by the Wezee women and rubbed on the skin as scent.

**Origin:** *Kyllinga* = named after P Kylling, a danish botanist; *melanosperma* = black seeded.

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***Kyllinga alata*** Nees  
(CYPERACEAE)

**Synonyms:** *K. alba* Nees var. *alata* (Nees)  
C.B. Clarke

**Measurements**

Culm height: 0.10-0.61 m  
Leaf length: 100-250 mm  
Leaf width: 1-3 mm  
Inflorescence: 100-200 mm  
Bract length: ± 120 mm  
Spikelet length: 3.5-4.0 mm  
Nutlet length: ± 1.0 mm

A densely tufted perennial, grass-like plant. **Culms:** Erect, triangular and hairy below inflorescence. **Leaves:** Yellow leaf-like bracts below inflorescence. **Inflorescence:** Single ovate to round spike. **Flowers:** Spikelets usually markedly winged; glumes golden green, keels green and pointed backwards with coarse teeth. **Fruit:** Nutlet. **Altitude:** 15-1950 m. **Habitat:** Occurs in vleis or seasonal marshy grasslands. **Distribution:** Found in WC, EC, KZN, FS, MP, LP, NW and GA; also in Lesotho and Namibia **General:** Indigenous specie restricted to southern Africa.



**Origin:** *Kyllinga* = named after P Kylling, a danish botanist; *alatus* = winged.

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***Kyllinga elatior*** Kunth  
(CYPERACEAE)

**Synonyms:** —

**Measurements**

Culm height: 0.25-0.87 m  
Leaf length: 25.4-76.2 mm  
Leaf width: 4.2-6.4 mm  
Inflorescence: 12.7-19.1 mm  
Bract length: 102-290 mm  
Spikelet length: ± 4.2 mm  
Nutlet length: ± 1 mm

Small to medium, soft, perennial; which look densely leafy. **Culms:** Sharply 3-angled. **Leaves:** Short and few per culm; lemon-scented when crushed. **Inflorescence:** Cylindrical to elliptical; greenish to dark; surrounded by 4-6 long bracts that spread at right angles. **Flowers:** Spikelet elliptic; 2-3 flowered; fertile glume with wingless keel. **Fruit:** Brown, ellipsoid nutlet. **Altitude:** 5-620 m. **Habitat:** Seasonally in shaded, moist grasslands, along drainage lines, seepage, swamp forest margins and reed swamps. Often growing in pure stands making dark green patches against the paler back ground. **General:** Uganda, Tanzania, Kenya, Zambia and KwaZulu-Natal and Eastern Cape in the FSA region. Indigenous. The rhizome and the aerial parts have a delicate lemon-scent when bruised. A mat, possibly for carrying maize meal and known as 'isitebe' is made from the culms.



**Origin:** *Kyllinga* = named after P Kylling, a danish botanist; *elatior* = a lifting up, exaltation.

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***Kyllinga polyphylla*** Willd. ex Kunth  
(CYPERACEAE)

**Synonyms:** —

**Measurements**

Culm height: 0.3-0.9 m  
Leaf length: 30-150 mm  
Leaf width: 2-6 mm  
Inflorescence: NA  
Bract length: 60-150 mm  
Spikelet length: 3-4 mm  
Nutlet length: 1.2-1.5 mm

Medium, clump-forming, perennial, grass-like plant with rhizome. **Culms:** closely spaced, sharply 3-angled. **Leaves:** Bracts 5-7, spreading whorl, resembling leaves. **Inflorescence:** Sessile sub-spherical head. **Flowers:** 1-2 flowered spikelets. **Fruit:** Nutlet lens-shaped, blackish. **Altitude:** ± 1000 m. **Habitat:** Wet marshy areas along streams and drainage near the coast. **General:** Tropical species whose southern most record is a single very localised population in Durban, KwaZulu-Natal. Indigenous. Known to be a weed in many countries.



**Origin:** *Kyllinga* = named after P Kylling, a danish botanist; *polyphylla* = having many heads.

## ***LIPOCARPHA* R. Br.**

There are ± 35 species worldwide. There are ± 6 species found in South Africa.

### **Distribution**

These species are reported from KZN, FS, MP, LP, NW and GA.

### **Descriptive characteristics**

Plants are slender, inconspicuous and short lived. The inflorescence is a terminal head of white spikes that have short branches carrying closely packed small spikelets.

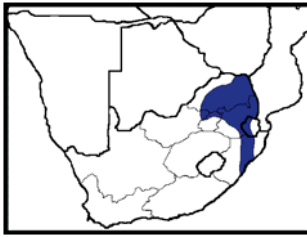
### **Habitat**

*L. chinensis* is a tufted perennial with leaves 1-5 mm wide that grows in quite extensive stands in aerated freshwater of streamlets or in the wet mud. Other species grow mostly in damp to wet moss mats in shallow soil over rock outcrops, where paucity of moisture is a frequent possibility.

### **Notes**

None.





***Lipocarpa chinensis*** (Osbeck) Kern  
(CYPERACEAE)

**Synonyms:** *L. argentea* (Vahl) R.Br.; *L. senegalensis* (Lam.) T.Durand & H.Durand; *Scirpus chinensis* Osb.

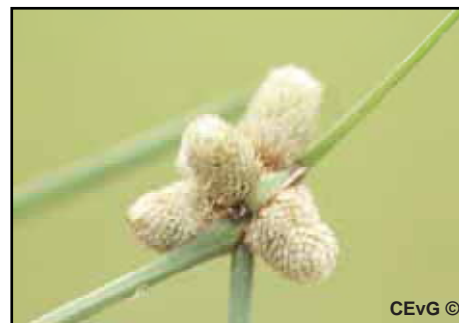
**Measurements**

Culm height: 0.25-0.80 m  
Leaf length: 100-400 mm  
Leaf width: 1-5 mm  
Inflorescence: mm  
Bract length: 20-180 mm  
Spikelet length: mm  
Nutlet length: NA

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Medium, densely tufted, perennial, grass-like plant. **Culms:** Slender and erect, many, cylindrical and flattened below the inflorescence. **Leaves:** Plants very leafy, leaves channelled and appears succulent. **Inflorescence:** Terminal head with white spikes that are short branched, carrying closely packed spikelets and long distinct bracts. **Flowers:** Spikelets pale even when mature; dull-white glumes discrete, with a short blunt, triangular tip; sometimes dark towards base. **Fruit:** Distinctly tuberculate. **Altitude:** 120-1525 m. **Habitat:** Favourite habitat is aerated water of stream margins or very wet mud on fringes of drainage channels. **General:** Indigenous species found from India, China, Australia and throughout tropical Africa extending to FSA region. Ethnomedicinal uses. **Similar species:** *Kyllinga spp.*, but which never has such well separated cone-like spikelets.

**Origin:** *Lipocarpa* = From the Greek, leipo (to fall) and carpha (chaff); *chinensis* = from China.





## *NEESENBECKIA* R. Br.

There is 1 species worldwide and in South Africa.

### **Distribution**

These species are reported from WC.

### **Descriptive characteristics**

Plants are tufted perennials. Leaves are reduced to sheaths but a few leaves with long cylindrical blades resemble aerial culms. The spikelets are numerous with 6-7 shortly awned bracts. Two florets with the lower being the male floret and the upper being bi-sexual. Six long and slender perianth bristles are present. Stamens 3. Style branches 6, shorter than the long swollen based style.

### **Habitat**

. *punctoria* are found in wet seepages.

### **Notes**

None.





***Neesenbeckia punctoria*** (Vahl) Levyns  
(CYPERACEAE)

**Synonyms:** *Buekia punctoria* (Vahl) Nees, illegitimate name; *Schoenus punctorius* Vahl; *Tetraria punctoria* (Vahl) C.B. Clarke

**Measurements**

Culm height: 1.50-2.40 m  
Leaf length: 1500-2400 mm  
Leaf width: NA  
Inflorescence: ± 76 mm  
Bract length: 76-200 mm  
Spikelet length: ± 13 mm  
Nutlet length: ± 6 mm

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Large, rigid, robust, tufted, perennial, grass-like plant. **Culms:** Erect, cylindrical, with basal nodes. **Leaves:** With ligula, blade V-shaped, elongated. **Inflorescence:** Paniculate, side of culm, subtending bracts erect, leaf-like, lowest much longer than remainder. **Flowers:** Spikelets light brown. **Fruit:** Nutlet with short stalk; broadly ovate; upper half wrinkled. **Altitude:** 275-745 m. **Habitat:** Grows in seepage between *smitopsis* spp. and various wetland species of the *Bruniaceae*. **Distribution:** Found in the WC. **General:** Indigenous species. **Similar species:** None.



**Origin:** *eesenbeckia* = Named after Christian Gottfried Daniel Nees von Esenbeck (1776-1858), a German botanist; *punctum* = to sting.



CEvG ©



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## *OXYCARYUM* Nees

There is only one species in the world and *oxycaryum cubense* occurs in South Africa.

### **Distribution**

The genus is reported from the pans of the Pongola drainage system in Maputoland and pans of the Ndumu Game Reserve. The genus is also present in the Okavango Swamps in Botswana.

### **Descriptive characteristics**

Plants are hydrophytes that form part of rafting (drifting, floating) vegetation in lakes and permanent swamps and are rooted in the soft mud or sands on the verge. The plants are rhizomatous and leaf-bearing. The rooted specimens can be robust with sharply 3-angled culms up to 0.5 m tall. Floating examples are as a rule, slender, ragged and untidy. Both forms are recognisable by the inflorescences of a central, roughly rounded cluster of spikelets, forming a head that is surrounded by 6-7 lateral stalked heads, more or less the same distance from the centre head. The leaves and inflorescence bracts of the rooted plants can be very long. Style branches 2; glumes stiff with hairy margins. Nutlet slender, terminating in a long beak, formed from the persistent style; yellowish to brown.

### **Habitat**

Permanent water of standing pans and lakes. Also in slowly flowing rivers (but not known from rivers in South Africa).

### **Notes**

The specie is nowhere common, but its distribution is widespread through tropical east Africa and outside Africa in Central and South America.





***Oxycaryum cubense*** (Poepp. & Kunth)  
Lye  
(CYPERACEAE)

**Synonyms:** *Scirpus cubensis* Poepp. & Kunth.

**Measurements**

Culm height: < 0.50 m  
Leaf length: 400-900 mm  
Leaf width: 4-10 mm  
Inflorescence: 3.5 mm  
Bract length: 30-60 mm  
Spikelet length: 3.5-6.0mm  
Nutlet length: 2.6-3.0 mm

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Slender, ragged and untidy, floating or rooted, perennial, grass-like plant; stolons 5-20 cm long, spreading horizontally, covered in blackish scales, rooting at the nodes. Roots often very long and hanging in water. **Culm:** Solitary, smooth, sharply 3-angled with basal nodes; 3-5 mm wide. **Leaves:** V-shaped leaves very long; sheaths with conspicuous venation, midrib and margins with minute spinelike teeth. Bracts below flowers leaf-like, broad and long. **Inflorescence:** Central, roughly rounded cluster of spikelets, forming a head that is surrounded by 6-7 lateral stalked flower heads; bracts very long. **Flowers:** Bisexual with stiff, hairy glumes that are arranged spirally; ovate boat-shaped; keel green and smooth with very thick sharply pointed tips. **Fruit:** Yellowish to brown, slender, spindle-shaped nutlet. **Altitude:** 1-1100 m. **Habitat:** Gregarious plants growing in slow flowing streams, around the edge, in shallow water or open waters of lakes, permanent pools or pans; wet, marshy grasslands, also forms rafting mats. Often in large single species stands. **Distribution:** Found in KZN; also in Botswana. **General:** Tropical to warm America and Africa. Indigenous. **Similar species:** None.



**Origin:** xy = Sharp; caryo = Nut; cubense = From Cuba.



## *PSEUDOSCHOENUS* (C. B. Clarke) Oteng-Yeb.

There is only 1 species worldwide and in South Africa.

### **Distribution**

This specie is reported from WC, EC, KZN, FS and NC.

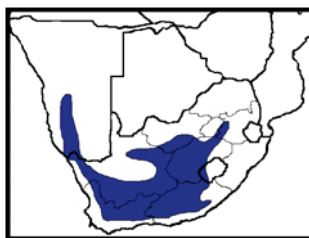
### **Descriptive characteristics**

The plants are rhizomatous and tall (1.5 m). The leaves are perennial. The inflorescence is terminal, elongate, irregularly branched and lacking conspicuous bracts. The florets have 5 bristles and an elongated style.

### **Habitat**

Plants are found in the saturated alluvial soils of pools in streams, where partial inundation from moving or standing water occurs periodically.





***Pseudoschoenus inanis*** (Thunb.)

Oteng-Yeb.  
(CYPERACEAE)

**Synonyms:** *Schoenus inanis* Thunb.; *Scirpus inanis* (Thunb.) Steud.; *Scirpus spathaceus* Hochst.

**Measurements**

Culm height: 0.76-2.50 m  
 Leaf length: NP  
 Leaf width: NP  
 Inflorescence: NA  
 Bract length: NA  
 Spikelet length: NA  
 Nutlet length: NA

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Large, rhizomatous, perennial, grass-like plant, with reed-like stems. **Culms:** Stout, cylindrical, with basal nodes. **Leaves:** Sheaths close to the axis; tip square; blades absent or much reduced. **Inflorescence:** Elongated, branched panicle; subtended by short, erect bract; sheathing scale-like. **Flowers:** Spikelets pale brown; cylindrical; glumes with short sharp tips. **Fruit:** Nutlet narrowly ellipsoid, 3-angled, smooth. **Altitude:** 395-1525 m. **Habitat:** In wet, marshy ephemeral riverbeds and flood plains. **General:** Indigenous specie. **Similar species:** None.

**Origin:** *Pseudoschoenus* = almost reed-like; *inanis* = empty.



CEvG ©



CEvG ©



CEvG ©



CEvG ©

## **PYCREUS** P. Beauv.

There are ± 70 species worldwide, mostly in Africa of which ± 18 species are found in South Africa.

### **Distribution**

These species are reported from WC, EC, KZN, FS, MP, LP, NW, GA and NC.

### **Descriptive characteristics**

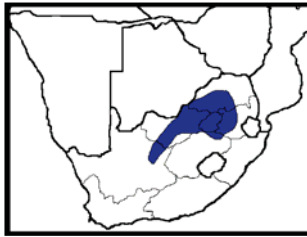
The plants of *Pycreus* and *Cyperus* are often confused. Differences in the spikelets are easily observed when the glume that encloses the floret is folded away, namely: **P** Style branches 2, long slender, tapering; nutlet 2-angled, flattened in the plane of the spikelet. **C** Style branches 3, relatively short, not markedly tapering; nutlet 3-angled.

*Pycreus* plants are stoloniferous plants, are leaf-bearing perennials up to 0.50 m (*P. polystachyos*; *P. macranthus*) or short-lived perennials with soft stolons linking the shoots (the stolons are easily broken and soon die away), or annuals that can be small under less favourable habitat conditions (*P. flavescens*). *P. mundtii* and *P. nitidus* are alike, both develop dense masses of elongate, leafy stems that overhang and trail into permanent water bodies; they quite often grow together or close to another. *P. mundtii* is the more slender with a bluish tinge to the leaves and a depression lateral to the midrib in the lower half of the lower glumes of a spikelet (not always clearly defined, so use of a hand lens is required). *P. nitidus* is robust with a 3-angled stem and chocolate-brown heads with quite wide spikelets. Inflorescence usually terminal, simple or compound, spikelets sessile in clusters, flattened laterally, glumes usually all alike, clearly in two opposite rows. Nuts are flattened.

### **Habitat**

Plants favour permanent water, growing in the shallow, moving water of vleis and streamlets, or in the saturated alluvial, adjacent soils; also sometimes floating as moving 'islands' after detachment from soils (*P. nitidus*; *P. mundtii*), in rivers, estuaries and lakes, where salinities are negligible.





## *Pycreus betschuanus* (Boeck.)

C.B. Clarke  
(CYPERACEAE)

**Synonyms:** *Cyperus betschuanus* Boeck.; *Cyperus globosus* All. var. *nilagirica* (Steud.) C.B. Clarke; *P. globosus* in sense of Podlech, not of (All.) Rchb.

### Measurements

Culm height: 0.15-0.36 m  
Leaf length: 10-24 mm  
Leaf width: 2.5 mm  
Inflorescence: NA  
Bract length: 50-100 mm  
Spikelet length: 2.1-12.7 mm  
Nutlet length: NA

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Horizontal rhizomatous, perennial, grass-like plant, with very pale scales on rhizome. **Culms:** Long and slender. **Leaves:** Near the base of the culm. **Inflorescence:** Umbel, simple with 3-5 rays; 3 leaf-like bracts. **Flowers:** Florets flat; glumes dark brown. **Fruit:** Nut obvoid. **Altitude:** Up to 1500 m. **Habitat:** Peripheral edge of pans, marshes and rivers. **General:** It is not certain whether *P. betschuanus* occurs in the vleis in the midlands of KwaZulu-Natal, several plants in this area resemble the taxon. Further research is required to verify the possibility of hybridization.

**Origin:** *Pycreus* = Anagram of *Cyperus*; *betschuanus* = Form Betshuanaland.



CEvG ©



#### Measurements

Culm height: 0.05-0.76 m  
Leaf length: 60-450 mm  
Leaf width: 0.5-4.0 mm  
Inflorescence: NA  
Bract length: 2-12 mm  
Spikelet length: 5-25 mm  
Nutlet length: 0.7-1.0 mm

## *Pycreus macranthus* (Boeck.) C.B.Clarke (CYPERACEAE)

**Synonyms:** *Cyperus macranthus* Boeck.



Small to medium, perennial, grass-like plant with above ground creeping rootstock. **Culms:** Slender and wiry with basal nodes. **Leaves:** Flat v-shaped or inrolled, with small spine-like teeth on margins. **Inflorescence:** Head subsessile or rays very short. **Flowers:** Spikelets lanceolate; glumes dark reddish brown. **Fruit:** Light brown to dark reddish brown, wrinkled nutlet. **Altitude:** 30-2500 m. **Habitat:** Marshes, vleis, seasonal swamps or grassland floodplains, seasonal depressions. **General:** Indigenous specie found from East Africa to FSA region. **Similar species:** None in South Africa.

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**Origin:** *Pycreus* = Anagram of *Cyperus*; *macranthus* = with large flowers.





***Pycreus mundtii*** Nees  
(CYPERACEAE)

**Synonyms:**

**Measurements**

Culm height: 0.15-0.76 m  
 Leaf length: 20-200 mm  
 Leaf width: 1-6 mm  
 Inflorescence: NA  
 Bract length: ± 100 mm  
 Spikelet length: 4-13 mm  
 Nutlet length: 0.8-1.1 mm

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Small to medium, perennial, grass-like plant with stolons up to 2 m long, 1-5 mm thick, soft branching at nodes clothed in scales, but some branches leafy and trailing. **Culms:** Solitary with basal nodes; covered for half its length by leaf sheaths. **Leaves:** Long thin leaves, born along trailing sterile shoots or confined to bases of culms, with ear-like projections at the top or just below the blades. stiff, trailing and often with bluish tint, flat or incurved, midrib and margins with small spine-like hairs, velvety gradually tapering to tip. Bracts surrounding inflorescence 2 or more lower ones overtopping the inflorescence **Inflorescence:** Flower cluster with 1 or more sessile and 1-7 stalked heads of spikelet clusters, primary rays 4-13 mm long. **Flowers:** Brown to dark brown spikelets; membranous patches on either side of the glume tip. **Fruit:** Nutlet biconvex, laterally flattened with oval dots. **Altitude:** 5-1890 m. **Habitat:** Swamps, slow flowing streams, flood plains, thick turf on water often rafting over pools and sluggish streams. **Distribution:** Found in WC, EC, KZN, FS, MP, LP, NW and GA; also in Swaziland. Usually in large stands, dominant in permanent wet habitats. **General:** Indigenous species found commonly in the Mediterranean, Madagascar and Africa.



**Origin:** *Pycreus* = Anagram of *Cyperus*; *mundii* = Clean, neat, elegant.



### Measurements

Culm height: 0.20-0.50 m  
Leaf length: 15-60 mm  
Leaf width: 2-8 mm  
Inflorescence: ± 80 mm  
Bract length: ± 250 mm  
Spikelet length: 8-25 mm  
Nutlet length: 0.9-1.1 mm

## *Pycreus nitidus* (Lam.) J.Raynal (CYPERACEAE)

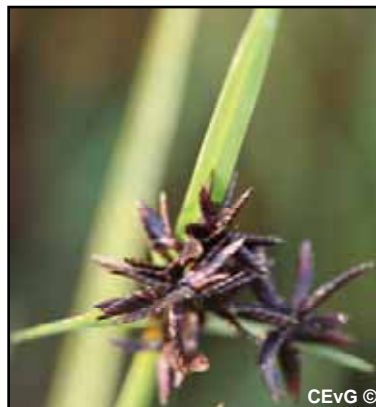
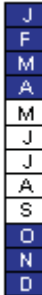
(A: waterbiesie; SS: leya-butle, motaoa-taoane, motobane; : ikhwane, intsekane)

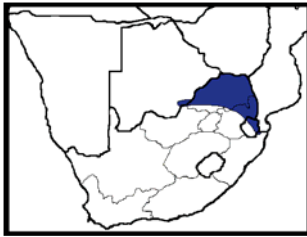
**Synonyms:** *Cyperus nitidus* Lam.; *P. lanceus* Turrill; *P. umbrosus* Nees



Small to medium, tufted perennial, grass-like plant. **Culms:** Usually solitary, 3-sided at top. **Leaves:** Near base of culm. **Inflorescence:** Umbel with flowerstalks ± 50 mm long. **Flowers:** Spikelets dark red to chestnut brown. **Fruit:** Dark brown nutlet dotted, obvoid and laterally flattened. **Altitude:** 5-2120 m. **Habitat:** Permanent pools, shallow water along rivers or streams, swamps forests and estuaries where salinities are not high. Often forms dense floating mats on the water's surface. **Distribution:** Found in WC, EC, KZN, FS, MP, LP, NW and GA. **General:** Madagascar, Africa, extending to FSA region. Indigenous. Juvenile crocodiles often use floating mats as resting sites; In East Africa used to cure chest complaints and ash from the plant is used as cooking salt. Ethnomedicinal uses.

**Origin:** *Pycreus* = Anagram of *Cyperus*; *nitidus* = bright, shining, flourishing, blooming.





***Pycreus pelophilus*** (Ridl.) C.B.Clarke  
(CYPERACEAE)

(E: golden sedge; A: goue biesie)

**Synonyms:** *Cyperus pelophilus* Ridl.; *P. chorisanthus* C.B.Clarke

**Measurements**

Culm height: 0.03-0.50 m  
 Leaf length: 20-150 mm  
 Leaf width: 1-3 mm  
 Inflorescence: 20-100 mm  
 Bract length: NA  
 Spikelet length: 4-20 mm  
 Nutlet length: 0.7-1.0 mm

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Small to medium, tufted, annual, grass-like plant. **Culms:** With basal nodes and maroon near the base. **Leaves:** Blades linear **Inflorescence:** Stalked digitate or headlike cluster. **Flowers:** Golden green glumes with sharp tip. **Fruit:** **Altitude:** 180-1062 m. **Habitat:** Grows in dense clumps along the edge of streams, margins of seasonal pools, oshanas and vleis. **Distribution:** Found in KZN, MP and LP; also in Botswana and Namibia. **General:** Indigenous specie found from East Africa and extending to the FSA region. **Similar species:** None.

**Origin:** *Pycreus* = Anagram of *Cyperus*; *pelophilus* = mud-loving.



RvdW ©



RvdW ©



RvdW ©

#### Measurements

Culm height: 0.60-1.00 m  
Leaf length: ± 300 mm  
Leaf width: 3 mm  
Inflorescence: NA  
Bract length: 51-152 mm  
Spikelet length: ±19 mm  
Nutlet length: NA

## *Pycreus polystachyos* (Rottb.) P.Beauv.

var. *polystachyos*  
(CYPERACEAE)

(SW: inconcodwane)

**Synonyms:** *Cyperus polystachyos* Rottb



Medium to large, erect, tufted, perennial, grass-like plant. **Culm:** Sharply angular. **Leaves:** Basal, flat, wavy; distinct spreading bracts. **Inflorescence:** Dense head of greenish, golden brown clusters. **Flowers:** Dull yellowish brown spikelets. **Fruit:** Brown nutlet oblong, almost symmetric. **Altitude:** 2-1250 m **Habitat:** Grow in open, moist, often disturbed grasslands. **Distribution:** **General:** Cosmopolitan in tropical and sub-tropical regions extending into warm-temperate climate. Indigenous. **Similar species:** *P. intactus*, which have greenish red to slightly shining brown spikelets



**Origin:** *Pycreus* = Anagram of *Cyperus*; *polystachya* = with many spikes.

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***Pycnus unioloides*** (R.Br.) Urb.  
(CYPERACEAE)

(E: Uniola flat sedge)

**Synonyms:** *Cyperus unioloides* R.Br.; *P. angulatus* Nees

**Measurements**

Culm height: 0.35-0.70 m  
 Leaf length: 15-60 mm  
 Leaf width: 2-8 mm  
 Inflorescence: ± 80 mm  
 Bract length: ± 250 mm  
 Spikelet length: 8-25 mm  
 Nutlet length: 0.9-1.1 mm

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Medium, underground creeping rootstock, tufted, perennial, sometimes annual, grass-like plant. Short-lived and inconspicuous rhizome, without stolons. **Culms:** Crowded, slender and rigid. **Leaves:** Confined to base of culm; sheaths reddish to blackish-brown; blades flat or folded, rough on the upper side. **Inflorescence:** Simple panicle with 1 sessile and 1-7 stalked heads of spikelet clusters. **Flowers:** Spikelets yellowish-brown to light reddish-brown; lanceolate to oblong, 3.5-5 mm wide and slightly swollen. **Fruit:** Black nutlets, laterally flattened. **Altitude:** 20-1950 m. **Habitat:** Not confined to wetlands, but often found in seasonally flooded areas. Vleis with permanent water or very wet depressions in short grasslands, oshanas, frequently growing in standing water, rafting over pools and pans and river edges. **Distribution:** Found in EC, KZN, MP, LP, NW and GA; also in Botswana, Lesotho, Namibia and Swaziland. **General:** Pantropical and consequently received many names.



**Origin:** *Pycnus* = Anagram of *Cyperus*; *unioloides* = like a large pearl.



#### Measurements

Culm height: 0.25-0.40 m  
Leaf length: 100-400 mm  
Leaf width: 2-4 mm  
Inflorescence: 60-120 mm  
Bract length: 150-250 mm  
Spikelet length: 8-25 mm  
Nutlet length: NA

### *Pycreus atribulbus* (Kük.) Napper (CYPERACEAE)

**Synonyms:** *Cyperus atribulbus* Kük.



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Medium, perennial, grass-like plant. **Culm:** Triangular. **Leaves:** Crowded near the base of the culm. **Inflorescence:** Loose panicle. **Flowers:** Light brown to golden spikelets, turning olive with age. **Fruit:** Narrow, almost black nutlets; minutely papilose. **Altitude:** Up to 6 m. **Habitat:** Organically rich sand along margins of pans containing permanent water, in low growing hygrophilous plants. **General:** Rare in East Africa. **Similar species:** *P. polystachyos*.



**Origin:** *Pycreus* = Anagram of *Cyperus*; *atribulbus* = Dark bulb.

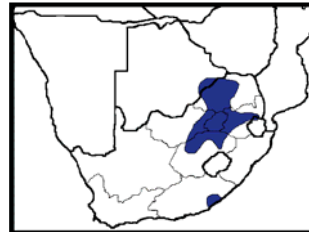
#### Measurements

Culm height: 0.38-0.75 m  
Leaf length: 25-50 mm  
Leaf width: 4-5 mm  
Inflorescence: 76.2-114.3 mm  
Bract length: NA  
Spikelet length: 19 mm  
Nutlet length: NA

### *Pycreus chrysanthus* (Boeck.)

C.B. Clarke  
(CYPERACEAE)

**Synonyms:** *Cyperus chrysanthus* Boeck.



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Single, stout, perennial, grass-like plant. **Culms:** Long culm. **Leaves:** Basal. **Inflorescence:** Broad and simple umbel with rays basally black. **Flowers:** Golden brown glumes gaping near base; obovate, boat-shaped. **Fruit:** Nut oblong-ellipsoid; black. **Altitude:** 515-1800 m. **Habitat:** Marshes or pans, vlei, springs and oshanas. **General:** Indigenous.



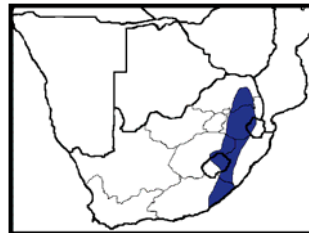
**Origin:** *Pycreus* = Anagram of *Cyperus*; *chrysanthus* = Golden flower.

#### Measurements

Culm height: 0.25-0.35 m  
Leaf length: 203-508 mm  
Leaf width: NA  
Inflorescence: NA  
Bract length: 76-152 mm  
Spikelet length: 8-12 mm  
Nutlet length: NA

### *Pycreus cooperi* C.B. Clarke (CYPERACEAE)

**Synonyms:**



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Thick and fibrous rooted, perennial, grass-like plant. **Culms:** Densely packed culms with basal nodes; triangular to round. **Leaves:** Stout and inrolled with large leaf sheaths at base overtopping the culm. **Inflorescence:** Umbel that is dense and look like single compound spike; with 3 bracts. **Flowers:** Spikelets hard and shining; glumes very dark brown. **Fruit:** Narrowly ellipsoid, compressed, brown nutlet. **Altitude:** ± 2010 m. **Habitat:** Marshes or vleis, along the edge of shallow streams. **General:** Indigenous species.



**Origin:** *Pycreus* = Anagram of *Cyperus*; *cooperi* = Named after Dr. James G. Cooper, 19th century geologist.

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***Pycreus intactus*** (Vahl) J.Raynal  
(CYPERACEAE)

**Synonyms:** *Cyperus intactus* Vahl; *P. ferrugineus* (Poir.) C.B.Clarke

**Measurements**

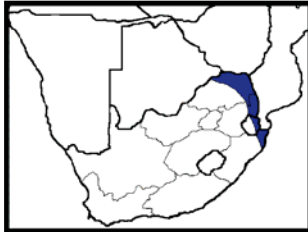
Culm height: 0.30-0.65 m  
Leaf length: ± 25 mm  
Leaf width: ± 5 mm  
Inflorescence: NA  
Bract length: 51-152 mm  
Spikelet length: ±19 mm  
Nutlet length: NA

Sparsely tufted, perennial, grass-like plant. **Culms:** With basal nodes. **Leaves:** Half the length of primary flower stalk; close to base of culm. **Inflorescence:** Umbel with numerous spikelets; loosely spicate. **Flowers:** Spikelets brightly coloured, somewhat lanceolate at the base; glumes rust-coloured. **Fruit:** Large oblong-ellipsoid nutlet. **Altitude:** 60-1370 m. **Habitat:** Open scrub and shallow seeps. **General:** Indigenous. **Similar species:** *P. polystachyus*.



**Origin:** *Pycreus* = Anagram of *Cyperus*; *intactus* = intangibility, something difficult to describe.

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***Pycreus macrostachyos*** (Lam.)

J.Raynal  
(CYPERACEAE)

**Synonyms:** *Cyperus macrostachyos* Lam.; *P. albomarginatus* ees; *P. tremulus* (Poir.) C.B.Clarke

**Measurements**

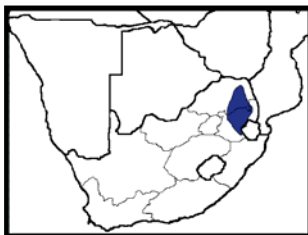
Culm height: 0.45-1.21 m  
Leaf length: ± 305 mm  
Leaf width: 3-4 mm  
Inflorescence: NA  
Bract length: 76-203 mm  
Spikelet length: ± 2.54 mm  
Nutlet length: NA

Medium to large, annual, grass-like plant. **Culms:** With basal nodes. **Leaves:** Basal leaves. **Inflorescence:** Compound umbel, with 3-11 primary flower stalks; often one contracted head; with 3 leaf-like bracts. **Flowers:** Loosely spicate, straw-coloured or yellow with white margins; ovate, obtuse spikelets. **Fruit:** Black nutlet compressed and ellipsoid. **Altitude:** 45-1000m. **Habitat:** Margins of permanent or seasonal pools and pans; wallows, marshy grasslands, vlei and in bogs. **General:** Indigenous specie from East Africa into the FSA region.



**Origin:** *Pycreus* = Anagram of *Cyperus*; *macrostachyos* = with large spikes

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***Pycreus muricatus*** (Kük.) Napper  
(CYPERACEAE)

**Synonyms:** *Cyperus muricatus* Kük.

**Measurements**

Culm height: < 0.45 m  
Leaf length: 150-600 mm  
Leaf width: 2-8 mm  
Inflorescence: 250 mm  
Bract length: mm  
Spikelet length: 80-25 mm  
Nutlet length: 0.9-1.1 mm

Medium, perennial, grass-like plant; with stolons 40 cm or more and membranous sheaths; rooting at most nodes. **Culms:** With basal nodes. **Leaves:** NA **Inflorescence:** NA **Flowers:** NA **Fruit:** NA **Altitude:** 650-1800m. **Habitat:** Boggy grasslands. **Distribution:** Found in MP and LP. **General:** Indigenous specie from East Africa to the FSA region.



**Origin:** *Pycreus* = Anagram of *Cyperus*; *muricatus* = rough with sharp points.



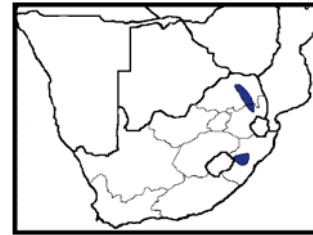
#### Measurements

Culm height: 0.20-0.60 m  
Leaf length: 13-40 mm  
Leaf width: ± 4 mm  
Inflorescence: NA  
Bract length: 51-203 mm  
Spikelet length: 6.4-8.5 mm  
Nutlet length:

### *Pycreus niger* (Ru z & Pav.) Cufod.

subsp. *elegantulus* (Steud.) Lye  
(CYPERACEAE)

**Synonyms:** *Cyperus elegantulus* Steud.;  
*P. elegantulus* (Steud.) C.B.Clarke



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Small to medium, tufted, perennial, grass-like plant. **Culms:** Slender, with basal nodes. **Leaves:** Near the base of culm, broad to filiform. **Inflorescence:** Dense or lax umbel with 1 to few spikelets. **Flowers:** Compressed spikelets; with black to chestnut-brown, boat-shaped glumes with prominent green or yellowish keel. **Fruit:** Eliipsoid, brown nutlet with raised dots on surface. **Altitude:** 670-1675 m. **Habitat:** Permanent wet, marshy grasslands, marshes, vleis, swamps. **Distribution:** Found in KZN, MP and LP. **General:** Indigenous species found in America, Asia, Tropical East Africa and southwards to the FSA region.



**Origin:** *Pycreus* = Anagram of *Cyperus*; *niger* = black, dark-coloured; *elegantia* = refinement, grace.

#### Measurements

Culm height: < 0.60 m  
Leaf length: ± 600mm  
Leaf width: 0.7-4.0 mm  
Inflorescence: 10-35 mm  
Bract length: 30-200 mm  
Spikelet length: 5-20 mm  
Nutlet length: 1.3-1.5 mm

### *Pycreus nigricans* (Steud.)

C.B.Clarke  
(CYPERACEAE)

**Synonyms:** *Cyperus nigricans* Steud.



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Robust, densely tufted, leafy perennial, grass-like plant with woody rhizome and thick roots. **Culms:** Stiff triangular to rounded culms with basal nodes and minute spine-like teeth on the angles. **Leaves:** Flat or folded with small spine-like teeth on the margins. **Inflorescence:** Compact black umbel. **Flowers:** Sessile spikelets with young and mature in different stages; glumes dark-reddish brown to black with paler 3-5 nerved keel. **Fruit:** Grey to reddish brown biconvex nutlet. **Altitude:** 1050-2000 m. **Habitat:** Marshy grounds. **Distribution:** Found in KZN, MP and LP. **General:** Indigenous specie from East Africa extending to the FSA region. **Similar species:** None.



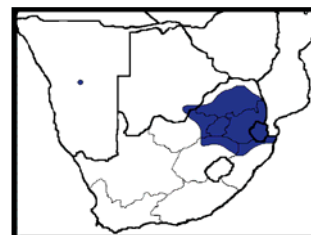
**Origin:** *Pycreus* = Anagram of *Cyperus*; *nigricans* = black, dark.

#### Measurements

Culm height: 0.05-0.30 m  
Leaf length: 20-80 mm  
Leaf width: 1.0-1.5 mm  
Inflorescence: 10-100 mm  
Bract length: 20-100 mm  
Spikelet length: 2-12 mm  
Nutlet length: 0.5-0.6 mm

### *Pycreus pumilus* (L.) Domin (CYPERACEAE)

**Synonyms:** *Cyperus nitens* Vahl; *Cyperus pumilus* L.; *Cyperus pumilus* L. var. *patens* (Vahl) Kük.



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Small, tufted, annual, grass-like plant with short and thin roots. **Culms:** Triangular and glabrous. **Leaves:** Rough on margin close to the tip; sheaths grey to purple. **Inflorescence:** 1 sessile and 1-6 stalked spikelet clusters. **Flowers:** Glumes green to reddish brown, conspicuously mucronate. **Fruit:** Nutlet dark grey, with minute tubercles in longitudinal rows. **Altitude:** up to 1675 m. **Habitat:** Plants grow in wet alluvium or moist depressions in disturbed grassland, wallows, in moist moss-covered soil over rocks. **General:** Indigenous specie from India, Malaysia, Australia, Tropical Africa, southwards to the FSA region.



**Origin:** *Pycreus* = Anagram of *Cyperus*; *pumilus* = dwarf

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***Pycreus rehmannianus***  
(CYPERACEAE)

**Synonyms:** -

**Measurements**

Culm height: 0.02-0.30 m  
Leaf length: ± 178 mm  
Leaf width: ± 4 mm  
Inflorescence: NA  
Bract length: ± 63.5 mm  
Spikelet length: ± 8.5 mm  
Nutlet length: NA

Small to medium, tufted, annual, grass-like plant. **Culms:** NA **Leaves:** NA **Inflorescence:** Contracted umbel with a few spikelets per head; with usually several long branches; 3 leaf-like bracts. **Flowers:** Spikelets blackish. **Fruit:** Shining black, ellipsoid, compressed nutlet. **Altitude:** 840-2020 m. **Habitat:** Edge of marshes and vleis. **General:** Indigenous specie that occurs in tropical Africa but as *P. flavescens* (L.). P. Beauv. Ex. Rchb. Subsp. *flavescens* Indigenous. **Similar species:** *P. flavescens*.



**Origin:** *Pycreus* = Anagram of *Cyperus*; *rehmannianus* = Named after Anton Rehmann, an Austrian botanist that worked in Krakow (Poland) and Lemberg and visited South Africa twice.

## *RHYNOSPORA* Vahl.

There are ± 250 species worldwide, predominantly American. There are ± 8 species in South Africa.

### **Distribution**

These species are reported from WC, EC, KZN, MP, LP, NW and GA.

### **Descriptive characteristics**

The plants have underground creeping rootstocks, or are tufted, leaf-bearing perennials that vary in size from taller than 1 m (*R. corymbosa*) to approximately 1 m (*R. holoshoenoides*) to about 0.25 m (*R. barrosiana* and *R. brownii*). The inflorescence is usually a series of branches up a stem, sometimes reduced to a single terminal branched or head-like cluster.

*Rhynchospora* spp. are identified by 2-angled, flattened (bifacial) nutlets, each crowned by a persistent style base, triangular in outline that fits over the nutlet apex. To see this gently fold back or remove the glume from a mature spikelet.

### **Habitat**

*R. corymbosa* grows in coastal vleis and swamps, usually among taller, often woody vegetation, and can be overlooked. *R. holoshoenoides* is also coastal, forming local stands, or small, isolated groups, in taller, usually woody vegetation on wet moist sand (sometimes the bases of plants are inundated in stagnant water). *R. brownii* is both coastal and inland (the commonest species in South Africa), favouring shallow, well aerated, moving water along streamlets, especially near rocky outcrops where alluvial deposits are found. *R. perrieri* is an inconspicuous, short lived perennial, or annual, that pioneers in exposed disturbed wet to moist, sandy, coastal areas.

### **Notes**

There are other species in South Africa that are rare and inconspicuous. They are slender plants, probably annual, that 'thread through' other vegetation and are easily overlooked. The main areas of distribution are further north in Africa, in warmer climates.





***Rhynchospora brownii*** Roem. & Schult.  
(CYPERACEAE)

**Synonyms:** *R. glauca* in sense of Germishuizen & Meyer, not of Vahl; *R. rugosa* (Vahl) Gale

**Measurements**

Culm height: 0.40-1.30 m  
 Leaf length: 50-400 mm  
 Leaf width: 1-3 mm  
 Inflorescence: 20-100 mm  
 Bract length: NA  
 Spikelet length: 3.0-5.0 mm  
 Nutlet length: 1.5-2.0 mm

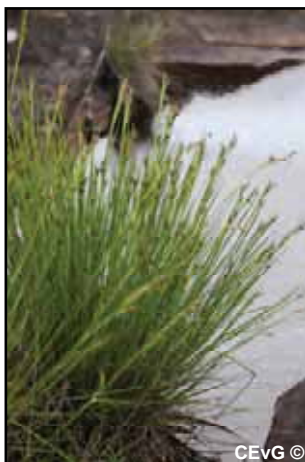
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Medium to large, slender, tufted, perennial, grass-like plant. **Culms:** Erect and slender, triangular with longitudinal grooves. **Leaves:** Blade with keeled midrib, V-shaped. **Inflorescence:** Lax panicle, always drooping when mature. **Flowers:** Bright red-brown or dark brown spikelets with bristles from base of ovary. **Fruit:** Diagonally wrinkled. **Altitude:** 5-1980 m. **Habitat:** Growing gregariously along margins or in shallow water of streams, rivers, vleis, pools and in seepage areas. **Distribution:** Found in the WC, EC, KZN, FS, MP, LP, NW and GA; also in Swaziland. **General:** Indigenous specie found widespread in KwaZulu-Natal, extending to the Cape Peninsula.

**Origin:** *Rhyncho* = beaked; *spora* = seed; *brownii* = Named after Robert Brown (1773-1858), Scottish botanist and botanical explorer.



CEVG ©



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#### Measurements

Culm height: 0.31-1.00 m  
Leaf length: NA  
Leaf width: NA  
Inflorescence: mm  
Bract length: mm  
Spikelet length: mm  
Nutlet length: mm

### *Rhynchospora Barrosiana*

Guagl.  
(CYPERACEAE)

Synonyms: —



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Medium to large, perennial, grass-like plant. **Culms:** Erect with aerial nodes. **Leaves:** Blade with keeled midrib, V-shaped. **Inflorescence:** **Flowers:** **Fruit:** **Altitude:** 1-1065 m. **Habitat:** Slow flowing streams, open waters of lakes, vleis, banks of streamlets or in very wet soil, very wet rocks, seepages and marshes. **General:** Often grows in association with *R. brownii* along the coast of KwaZulu-Natal.



**Origin:** *Rhyncho* = beaked; *spora* = seed; *barrosiana* = Named after Manual Barros (1880-1973), Argentinian botanist.



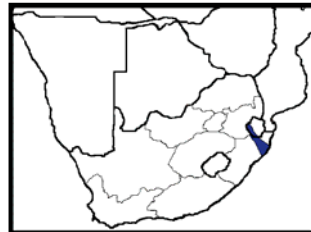
#### Measurements

Culm height: < 0.70 m  
Leaf length: 50-250 mm  
Leaf width: 0.5-1.0 mm  
Inflorescence: 20-80 mm  
Bract length: ± 200 mm  
Spikelet length: 4-7 mm  
Nutlet length: 1.3-1.6 mm

### *Rhynchospora gracillima*

Thwaites subsp. *subquadrata* (Cherm.)  
J.Raynal  
(CYPERACEAE)

Synonyms: *R. subquadrata* Cherm.



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Medium, slender, leafy annual, occasionally perennial, grass-like plant with short rhizome. **Culms:** Rounded or angular. **Leaves:** Blade with keeled midrib, V-shaped. **Inflorescence:** **Flowers:** **Fruit:** **Altitude:** Up to 50 m. **Habitat:** Plants are spindly and closely threaded through associated vlei vegetation, peaty sand, highly moist grasslands. **Distribution:** Found in KZN and MP. **General:** Indigenous species found in Sri Lanka, India, Thailand, southeastern China, Malesia, Australia, Madagascar and Tropical Africa extending southwards to FSA region. Often being overlooked.



**Origin:** *Rhyncho* = beaked; *spora* = seed; *gracillima* = most graceful and slender; *subquadrata* = almost square.

#### Measurements

Culm height: 0.27-1.21 m  
Leaf length: 152-305 mm  
Leaf width: 3.1-5.1 mm  
Inflorescence: 10 mm  
Bract length: NA  
Spikelet length: 4-5 mm  
Nutlet length: NA

### *Rhynchospora holoschoenoides* (Rich.) Herter (CYPERACEAE)

Synonyms: *R. arechavaletae* Boeck.; *R. cyperoides* (Sw.) Mart.; *R. mauritii* Steud.; *Schoenus holoschoenoides* Rich.



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Medium to large, sparsely tufted, perennial, grass-like plant. **Culms:** Triangular at the top. **Leaves:** Overtopping the culm; blade with keeled midrib, V-shaped. **Inflorescence:** Elongated panicle, dense straw-coloured. **Flowers:** Straw-coloured spikelets. **Fruit:** Obovoid, compressed nutlet with linear, long beak. **Altitude:** 5-1030 m. **Habitat:** Wet, sandy places, often common along drainage lines, seepages, and marshes, bogs, moist sandy soil, damp areas, ephemeral rivers and oshanas. **General:** Indigenous species which is found abundantly in America but rare in Tropical Africa.



**Origin:** *Rhyncho* = beaked; *spora* = seed; *holoschoenoides* = entirely like a rush.

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***Rhynchospora perrieri*** Cherm.  
(CYPERACEAE)

Synonyms: —

Measurements
Culm height: < 0.30 m
Leaf length: NA
Leaf width: NA
Inflorescence: mm
Bract length: mm
Spikelet length: 3.5-5.0 mm
Nutlet length: ±1.25 mm

Small, slender, inconspicuous, perennial grass-like plant. **Culms:** Soft textured. **Leaves:** Blades with keeled midrib, V-shaped; rough on margins and near tip. **Inflorescence:** With 3-4 rather dense contracted elongated groups of spikelets protruding from leaf sheaths. **Flowers:** Brown spikelets. **Fruit:** Nutlet that have coarsely transversely wavy surface and style base that gives the impression of epaulettes. **Altitude:** 8-275 m. **Habitat:** Swamp forests, seepage areas often pioneer in moist areas or disturbed areas. **General:** Indigenous specie found from East Africa to the FSA region. **Similar species:** None in Africa.



**Origin:** *Rhyncho* = beaked; *spora* = seed; *perrieri* = Named after Joseph Marie Henri Alfred Perrier de la B thie (1873-1958), a French botanist.

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***Rhynchospora rubra*** (Lour.)  
Makino subsp. *africana* J.Raynal  
(CYPERACEAE)

Synonyms: —

Measurements
Culm height: < 0.34 m
Leaf length: NA
Leaf width: NA
Inflorescence: 5-12 mm
Bract length: NA
Spikelet length: 3-4 mm
Nutlet length: 1.0-1.5 mm

Small, slender, tufted, annual or perennial grass-like plant; **Culms:** 3-sided and hairless. **Leaves:** Blade with keeled midrib, V-shaped, rough on the margins and near the tip and much shorter than the culm. **Inflorescence:** Solitary roundish head-like cluster; surrounded by 2-5 erect bracts which are densely ciliate at the base. **Flowers:** Ovate-lanceolate; 1-2 flowered spikelets. **Fruit:** Broadly ovate nutlet, undulate and rough near the tip. **Altitude:** 2-50 m. **Habitat:** Damp, peaty soil, seasonally wet areas or wet, marshy grasslands, seepages and in shallow waters. **General:** Indigenous specie from the type locality Mafia Island, Dundani, Tanzania. Common in KwaZulu-Natal but not often collected. **Similar species:** None in Africa.



**Origin:** *Rhyncho* = beaked; *spora* = seed; *rubra* = red coloured; *africana* = from Africa.

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***Rhynchospora spectabilis***  
Hochst. ex Krauss  
(CYPERACEAE)

Synonyms: *R. macrocarpa* Boeck.

Measurements
Culm height: 1.00-1.80 m
Leaf length: NA
Leaf width: NA
Inflorescence: mm
Bract length: mm
Spikelet length: mm
Nutlet length: mm

Large, perennial grass-like plant. **Culms:** **Leaves:** Blade with keeled midrib, V-shaped. **Inflorescence:** **Flowers:** **Fruit:** **Altitude:** 4-275 m. **Habitat:** Wet, marshy grasslands. **General:** Indigenous.



**Origin:** *Rhyncho* = beaked; *spora* = seed; *spectabilis* = visible, worth seeing, notable.

## *SCHOENOPLECTUS* (Rchb.) Palla

There are ± 56 species worldwide. There are ± 13 species in South Africa.

### **Distribution**

These species are reported from WC, EC, KZN, FS, MP, LP, NW, GA and NC.

### **Descriptive characteristics**

A genus of perennial plants recognizable by leafless stems bearing lateral (occasionally appearing terminal) inflorescences; each a cluster of brown spikelets overtopped by a spike-like bract that continues the line of the stem, usually for some distance above the spikelet cluster.

### **Habitat**

These plants are generally emergents from permanent water bodies and dams, where they may form extensive stands, or in small isolated pools with a solitary representative. The plants are also present on banks of rivers and streamlets and in seepage areas.

### **Notes**

Three species are tall, sometimes with stems a metre or more above water level and therefore conspicuous. These species are *S. corymbosus*, where the bract just overtops the inflorescence; *S. brachyceras* with a short, stout bract not extending beyond the inflorescence; and *S. tabernamontani* where again the bract does not exceed the rather 'heavy' inflorescences. This last species is found primarily in the northern hemisphere, is thought to have been introduced and subsequently distributed by migrant water birds. *S. scirpoides* is estuarine (also tall stemmed), an indicator of freshwater in a saline environment. It has been noted that in river mouths, when the volume of fresh water entering the sea has been more or less permanently reduced, there has been a gradual further inland encroachment by *S. scirpoides*.





## *Schoenoplectus brachyceras*

(Hochst. ex A.Rich.) Lye  
(CYPERACEAE)

**Synonyms:** *S. corymbosus* (Roem. & Schult.)  
J.Raynal var. *brachyceras* (A.Rich.) Lye; *Scirpus*  
*brachyceras* A.Rich.

### Measurements

Culm height: 0.05-1.60 m  
Inflorescence: NA  
Bract length: 5-55 mm  
Spikelet length: NA  
Nutlet length: 1.1-1.7 mm

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Medium to large, perennial, grass-like plant, often found standing in the water. **Culms:** Circular, erect and spongy. **Leaves:** Basal, usually reduced to scales; distinctive markings. **Inflorescence:** Appearing lateral, compound; bract boatshaped, much shorter than the inflorescence. **Flowers:** Many flowered, pale yellow-green (when young) spikelets; dark brown to almost black at maturity; bristly at tip and irregular in outline. **Altitude:** 850-2000 m. **Habitat:** Along the edge of rivers, around the edge of lakes and dams forming dense green clumps. **General:** Pantropical. Indigenous. Used for weaving baskets. **Similar species:** *S. corymbosus*.

**Origin:** *Schoinos* = a rush; *plectos* = twisted; *brachyceras* = short-horned, short antennaed.





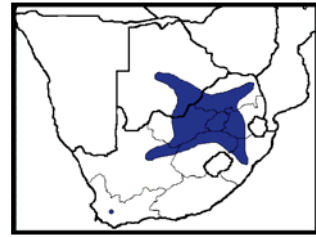
### Measurements

Culm height: 0.45-2.80 m  
Inflorescence: 20-100 mm  
Bract length: 2-10 mm  
Spikelet length: 5-10 mm  
Nutlet length: 1.2-2.0 mm

## *Schoenoplectus corymbosus* (Roth ex Roem. & Schult.) J.Raynal (CYPERACEAE)

(SS: roro-roea-mokhoabo; Sw: inchoboza)

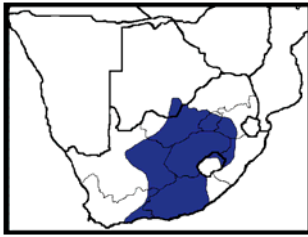
**Synonyms:** *Isolepis corymbosa* Roem. & Schult.,  
not of C.Presl; *Scirpus corymbosus* Roth, illegitimate  
name; *Scirpus inclinatus* (Barbey) Boiss



Large aquatic emergent, underground creeping, perennial, grass-like plant. **Culms:** Cylindrical and smooth. **Leaves:** Reduced to sheaths at base. **Inflorescence:** Branched with culm-like bract as long as or slightly longer than the inflorescence. **Flowers:** Reddish brown with short, hard, pointed bract; spikelets pale straw colour when young; occasionally spikelets are replaced by new growth. **Altitude:** 300-1770. **Habitat:** Along the edge of rivers, open waters of lakes or pools, around the edge of lakes, swamps and dams. **General:** Tropical Old World, southwards to FSA region. Indigenous. Used to weave mats and baskets. **Similar species:** *S. brachyceras*, which have a culm-like bract shorter than the inflorescence.

**Origin:** *Schoinos* = a rush; *plectos* = twisted; *corymbosus* = flowers in flat topped clusters.





## *Schoenoplectus decipiens* (Nees)

J.Raynal  
(CYPERACEAE).

**Synonyms:** *Isolepis decipiens* Nees; *Scirpus paludicola* Kunth forma *decipiens* (Nees) C.B.Clarke

### Measurements

Culm height: 0.25-0.90 m  
Inflorescence: 20 mm  
Bract length: 20-90 mm  
Spikelet length: 5-10 mm  
Nutlet length: 1.3-1.9 mm

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Medium, spreading or tufted, perennial, grass-like plant. **Culms:** In a row, or occasionally tufted. **Leaves:** Reduced to 2-3 short sheaths. Leaf-like bract overtopping the inflorescence. **Inflorescence:** Cluster of sessile, pseudolateral, digitally arranged spikelets. **Flowers:** Sessile, spikelets; ovoid to elipsoid; 5-10 mm long; 3-5 mm wide; whitish with dark brown markings or almost black at high altitudes. **Seed:** 3-sided nut; ovate to obovate. **Altitude:** 30-2350 m. **Habitat:** Standing in shallow waters around edge of pools, marshes, vleis and in seepage areas. **Distribution:** Found in WC, EC, KZN, FS, MP, LP and GA; also in Botswana, Lesotho and Swaziland. **General:** Indigenous, confined but widespread in southern Africa. **Similar species:** *S. paludicola*.

**Origin:** *Schoinos* = a rush; *plectos* = twisted; *decipiens* = deceiving, can be mistaken for something else.



### Measurements

Culm height: 0.13-0.95 m  
Inflorescence: 30-50 mm  
Bract length: 40-150 mm  
Spikelet length: 4-9 mm  
Nutlet length: 1.2-1.6 mm

## *Schoenoplectus muricinux*

(C.B.Clarke) J.Raynal  
(CYPERACEAE)

**Synonyms:** *Scirpus muricinux* C.B.Clarke

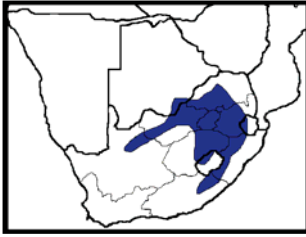


Robust, tufted, perennial, grass-like plant. **Culms:** Compact rows or tufted, thick, round, smooth, soft and pith filled. **Leaves:** Reduced to 2-3 sheaths; the upper one sheath-like, splitting to give a ladder-filigree across the split; bract 4-15 cm long continuing in direction of the culm, stiff and culm-like. **Inflorescence:** Pale, simple or compound, pseudolateral, panicle with clusters of spikelets on un-equal branches. **Flowers:** Sessile spikelets, ovoid, pale yellow with dark brown to black markings, 2-3 mm wide. Glumes ovate 1.8-2.6 mm long, pale whitish-yellow with dark brown to blackish streaks forming an inverted V on each side of keel; margins narrow, translucent; midrib green sharp terminal point. **Fruit:** Shining, dark brown to black, 3-sided nut; ovate to obovate, with 12-16 wavy lines across the nut. **Altitude:** 520-1520 m. **Habitat:** Along the edge of rivers, permanent pools, marshes and vleis; showing a preference for black clay soils. **Distribution:** KZN, FS, MP, LP, NW, GA and NC; also in Botswana, Namibia and Swaziland. **General:** Zambia, Zimbabwe southwards to SA. **Similar species:** *S. confuses*, which has larger glumes and nutlets.

**Origin:** *Schoinos* = a rush; *plectos* = twisted; *muricinux* = From the Latin, *muricate* meaning rough with short hard points like the shell of *Murex*; *nux* = nut; the name describes the surface of the fruit.

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***Schoenoplectus muriculatus*** (Kük.)  
Browning  
(CYPERACEAE)

**Synonyms:** *Scirpus muriculatus* Kük.

**Measurements**

Culm height: 0.18-0.90 m  
Inflorescence: < 10 mm  
Bract length: 20-80 mm  
Spikelet length: 4-10 mm  
Nutlet length: 1.2-1.6 mm

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Slender, tufted, perennial grass-like plant, 2-3 mm thick woodey, horizontal rootstock; between 0.18-0.90 m. **Culms:** Compact, row or tuft, circular, smooth, hard and firm. **Leaves:** Reduced to 2-3 sheaths, the uppermost sheath splitting open to give a ladder-filigree across the split. **Inflorescence:** Simple or compound, pseudolateral, panicle with clusters of spikelets on unequal stalks. **Flowers:** Chestnut brown to rust coloured spikelets sessile, ovoid; Glumes pale-whitish-yellow with reddish-brown streaks forming an inverted V each side of the keel, margins narrow, translucent, midrib pale terminating in a sharp tip. **Fruit:** Nutlet 3-sided, broadly ovate to obovate, smooth, shining dark brown to black, with 8-10 wavy lines across the nut shoulders. **Altitude:** 860-2140 m. **Habitat:** Permanent pools, swamps. **General:** South-eastern Africa southwards to FSA region. Indigenous. **Similar species:** *S. paludicola*, which are smooth and have perianth bristles.



**Origin:** *Schoinos* = a rush; *plectos* = twisted; *muriculatus* = roughened on the surface by means of sharp, hard points.



### Measurements

Culm height: 1.00-2.00 m  
Bract length: 2-10 mm  
Spikelet length: 6-22 mm  
Nutlet length: 2.3-2.7 mm

## *Schoenoplectus scirpoides*

(Schrad.) Browning  
(CYPERACEAE)

(A: Papgras, steekbiesie; : ingqumbe)

**Synonyms:** *Pterolepis scirpoides* Schrad.; *S. litoralis* in sense of Germishuizen & Meyer, not of (Schrad.) Palla



Large to very large reed-like perennial plant. **Culms:** Loosely tufted, round, but 3-sided just below the inflorescence. **Leaves:** Reduced to 2 or 3 greyish-brown sheaths; sheaths often split into fibres; uppermost sometimes with a blade shorter than culm. **Inflorescence:** Usually compound and spreading, rarely simple; with 3 or more unequal ascending stalks, terminating in umbels or panicles of densely arranged spikelets. **Flowers:** Rusty brown spikelets stalked and solitary; ovoid to oblong-ovoid; rusty brown glumes appressed, ovate to broadly oblong, margins minutely hairy, midrib prominent and end in a short hairy or rough tip; perianth bristles feather-like. **Fruit:** Nutlet unequally biconvex, greyish-brown to almost black. **Altitude:** 1-1600 m. **Habitat:** Coastal marshy areas, saline pools, brackish waters. **General:** Southern Africa extending along coastal areas of the FSA region. Indigenous. Indicator of a fresh-water influx in a saline, especially an estuarine environment.

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**Origin:** *Schoinos* = a rush; *plectos* = twisted; *scirpoides* = rush-like.



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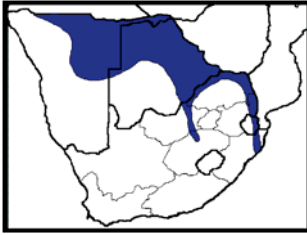
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## *Schoenoplectus senegalensis*

(Hochst. ex Steud.) Palla ex J.Raynal  
(CYPERACEAE)

(E: Spring onion sedge; A: Sprietui-steekbiesie)

**Synonyms:** *Isolepis senegalensis* Steud.; *Scirpus acobi* C.E.C.Fisch.; *Scirpus praelongatus* (Poir.) J.Raynal

### Measurements

Culm height: 0.15-0.60 m  
Bract length: 50-300 mm  
Spikelet length: 3-9 mm  
Nutlet length: 1.2-1.5 mm

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Tufted, annual grass-like plant, helophyte or amphibious hydrophyte. **Culms:** Numerous, cylindrical to angular, with longitudinal ridges; hollow but with distinct transverse septa. **Leaves:** Reduced to 1-3 pale to reddish, bladeless sheaths, the upper sheath ending in a sharp tip. **Inflorescence:** Dense cluster with apparently lateral sessile spikelets (1-25); long culm-like bract overtopping the inflorescence. **Flower:** Golden-brown to bronze-coloured, sessile spikelets, ovoid to almost round. **Fruit:** Nutlets sharply 3-angled, obovoid; transversely wavy on the sides but not on the sides. **Altitude:** 215-1050 m. **Habitat:** Seasonally flooded area, permanent pools, edge of pans or disused wallows. **Distribution:** Found in KZN, FS, MP and LP; also in Botswana, Namibia and Swaziland. **General:** Indigenous specie found from India, Africa, and extending to the FSA region. **Similar species:** *S. lupulinus*, which have smaller glumes.



**Origin:** *Schoinos* = a rush; *plectos* = twisted; *senegalensis* = form Senegal



RvdW ©



RvdW ©

### Measurements

Culm height: 0.80-2.00 m  
Bract length: 2-11 mm  
Spikelet length: 6-15 mm  
Nutlet length: 2.0-2.5 mm

## *Schoenoplectus* (C.C.Gmel.) Palla *tabernaemontani*

(CYPERACEAE)

(E: Softstem bulrush)

**Synonyms:** *S. lacustris* in sense of Germishuizen & Meyer, not of (L.) Palla; *Scirpus tabernaemontani* C.C.Gmel.



AL



Large to very large, robust, perennial grass-like plant, with underground creeping and above-ground creeping rootstock, stolons up to 100 mm thick. **Culms:** Loosely tufted or solitary, cylindrical to obtusely 3-angled below the inflorescence, up to 50 mm basally, 3-5 mm below inflorescence. **Leaves:** Basal, reduced to sheaths, or rarely upper sheath short-bladed. **Inflorescence:** Usually compound and spreading with 3 or more unequal spreading flower stalks, ending in umbels or panicles of spikelets. **Flowers:** Reddish-brown spikelets stalked, many flowered, ovoid to ellipsoid; glumes boat-shaped, back densely covered in small dark brown papillae and the margins fringed with sharp hairs. **Fruit:** Smooth dark brown nutlets biconvex and flattened. **Altitude:** 600-1700 m. **Habitat:** Streams, ditches, pools and swamps, often in water. It can tolerate brackish conditions. **General:** Naturalised specie that is nearly world-wide distributed. **Similar species:** None.

**Origin:** *Schoinos* = a rush; *plectos* = twisted; *tabernae* = hut-like; *montani* = like a mountain.

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## *Schoenoplectus articulatus*

(L.) Palla  
(CYPERACEAE)

**Synonyms:** *Scirpus articulatus* L.

### Measurements

Culm height: 0.20-1.20 m  
Bract length: 60-600 mm  
Spikelet length: 6-18 mm  
Nutlet length: 1.5-2.0 mm

Medium to large, tufted, annual aquatic emergent, grass-like plant. **Culms:** Smooth, shiny green, hollow or pith-filled, with transverse septa. **Leaves:** Reduced to bladeless sheaths, much wider than the culm, pale green becoming yellow; terminating in broad lobe. **Inflorescence:** Dense lateral cluster of sessile spikelets. **Flowers:** Variegated grey, greenish and reddish-brown; ovoid or oblong-ovoid, cylindrical. **Fruit:** Smooth whitish nuts when young, becoming dark brown to black when mature; 3-angled sides slightly concave. **Altitude:** 40-980 m. **Habitat:** Slow-flowing streams, seasonally flooded areas, swamps, brackish water, rice fields, pans. **Distribution: General:** Tropical to warm regions, Asia, Australia, Africa from south Egypt to FSA region. Indigenous. Ethnomedicinal uses. **Similar species:** *S. senegalensis*, which have larger nuts.

**Origin:** *Schoinos* = a rush; *plectos* = twisted; *articulatum* = joint by joint, distinctly.



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## *Schoenoplectus confusus*

(N.E.Br.) Lye subsp. *natalitius* Browning  
(CYPERACEAE)

**Synonyms:** —

### Measurements

Culm height: < 0.91 m  
Inflorescence: 10-35 mm  
Bract length: 2-10 mm  
Spikelet length: 4-10 mm  
Nutlet length: 1.1-1.5 mm

Tufted perennial, grass-like plant, with horizontal, short, thick, woody underground creeping rootstock. **Culms:** Round, smooth in compact row. **Leaves:** Reduced to 2-3 sheaths; lower bract stiff and culm-like. **Inflorescence:** Simple or compound, pseudolateral, panicle with clusters of spikelets. **Flowers:** Ovoid, pale yellow, sessile spikelets with or without dark brown markings; glume ovate, 2.4-3.5 mm long, 1.6-2.5 mm wide, pale white-yellow, with an inverted V on both sides of the midrib that ends in a sharp tip. **Fruit:** Nutlet 3-sided, shining dark brown to black, with 10-16 wavy transverse lines across the shoulders. **Altitude:** 50-130 m. **Habitat:** Coastal marshy areas, open waters of lakes or pools; pans: permanent or seasonal, in water up to 0.5 m. In very wet soil at edge of pans and oshanas. **General:** Endemic to KwaZulu-Natal. **Similar species:** *S. muricinux*, which has smaller glumes.

**Origin:** *Schoinos* = a rush; *plectos* = twisted; *confusus* = ; *natalitius* = from Natal





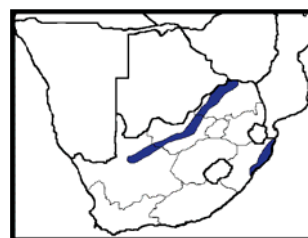
#### Measurements

Culm height: 0.10-0.65 m  
Leaf length: 50-150 mm  
Leaf width: NA  
Inflorescence: 20 mm  
Bract length: 200 mm  
Spikelet length: 5-12 mm  
Nutlet length: 0.9-1.5 mm

### *Schoenoplectus erectus* (Poir.)

Palle ex J.Raynal  
(CYPERACEAE)

**Synonyms:** *Scirpus erectus* Poir.; *Scirpus raynalii* Schuyler; *Scirpus sinuatus* Schuyler



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Medium, tufted annual, grass-like plant, amphibious hydrophyte, or helophyte. **Culms:** Slender, weekly 3-angled, or almost round. **Leaves:** Reduced to 2-3 sheaths; upper sheath 5-15 mm long, membranous, pale green, yellowish or pinkish-grey, slightly widened above with a sharp tip. **Inflorescence:** Head-like or spreading with 2-6 spikelets per cluster. **Flowers:** Straw-coloured spikelets, sessile or borne on up to 2 mm long flower stalks. **Fruit:** Black nutlet broadly obovoid, flattened with wrinkled transverse frills. **Altitude:** 1-1345 m. **Habitat:** Seasonally flooded areas, wet marshy areas or rice fields. **General:** Indigenous species found from tropical to warm regions of Asia, Australia and Africa extending to the FSA region. **Similar species:** None.



**Origin:** *Schoinos* = a rush; *plectos* = twisted; *erectus* = upright.

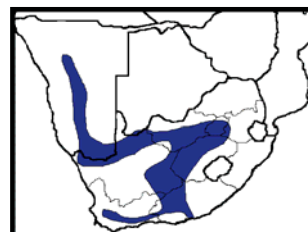
#### Measurements

Culm height: 0.03-0.30 m  
Leaf length: < 50 mm  
Leaf width: NA  
Inflorescence: NA  
Bract length: 2-10 mm  
Spikelet length: 3-4 mm  
Nutlet length: 0.7-1.0 mm

### *Schoenoplectus leucanthus*

(Boeck.) J.Raynal  
(CYPERACEAE)

**Synonyms:** *Scirpus leucanthus* Boeck.;  
*Scirpus supinus* in sense of Germishuizen & Meyer, not of L. var. *leucosperma* C.B.Clarke



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Small, tufted, annual, grass-like plant; between 0.03-0.3 m high. **Culms:** **Leaves:** Blades nearly always present. **Inflorescence:** 1-3 spikelets. **Flowers:** Straw-coloured spikelets ovoid, with 3-8 florets. **Fruit:** Nutlet 3-angled; transversely wrinkled. **Altitude:** Up to 1345 m. **Habitat:** Dams, pans, vleis and springs. **General:** Indigenous species found in Southern Africa. **Similar species:** None.



**Origin:** *Schoinos* = a rush; *plectos* = twisted; *leucanthus* = white-flowered.

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## *Schoenoplectus paludicola*

(Kunth) J. Raynal  
(CYPERACEAE)

**Synonyms:** *Scirpus paludicola* Kunth

### Measurements

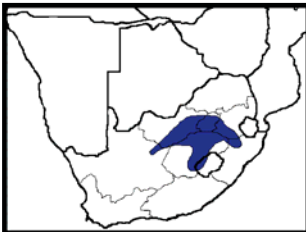
Culm height: 0.35-0.91 m  
Inflorescence: ± 10 mm  
Bract length: 4-10 mm  
Spikelet length: 4-6 mm  
Nutlet length: 1.2-1.7 mm

Small, tufted, horizontal, woody underground-creeping, perennial, grass-like plant. **Culms:** Tufted, circular in transect section, smooth, hard and firm. **Leaves:** Reduced to 2-3 sheaths; the upper sheath sometimes with oblique blade-like tip. **Inflorescence:** Simple or compound, pseudolateral, with 1-5 sessile spikelets; lower bract stiff and culm-like. **Flowers:** Sessile spikelets ovoid to cylindrical, chestnut brown or rust-coloured; 2-3 mm diameter. **Fruit:** Smooth, shiny black, ovate to obovate; 3-angled. **Altitude:** 60-1524 m. **Habitat:** Edge of rivers, seasonal pools, in mud around edge of wallows, or hillside marshy areas. **General:** Endemic to Southern Africa extending to FSA region. Indigenous. Ethnomedicinal uses. **Similar species:** *S. diciptens*

**Origin:** *Schoinos* = a rush; *plectos* = twisted; *paludicola* = marsh-dweller.



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## *Schoenoplectus pulchellus*

(Kunth) J. Raynal  
(CYPERACEAE)

**Synonyms:** *Ficinia pulchella* Kunth; *Scirpus pulchellus* (Kunth) Boeck.

### Measurements

Culm height: < 0.56 m  
Inflorescence: < 10 mm  
Bract length: 40-130 mm  
Spikelet length: NA  
Nutlet length: 0.7-0.9 mm

Small, slender and dainty, perennial sedge. **Culms:** Adjacent, somewhat terete and hairless. **Leaves:** Reduced to 2-3 membranous sheaths; uppermost terminating in a 2-8 mm scabrid-margined reduced leaf-blade. **Inflorescence:** Simple or compound panicle with clusters of sessile spikelets. **Flowers:** Spikelets ovoid, glumes 1.5-1.8 mm long. **Fruit:** Small nutlet, perianth bristles reduced to 2 or 3 horn-like extensions from the base of the nutlet. **Altitude:** 1000-1800 m. **Habitat:** Along the edge of rivers or around edge of pools. **Distribution:** Found in the EC, KZN, FS, MP, NW and NC; also in Botswana, Lesotho and Namibia. **General:** Indigenous species known only from the central area of South Africa. **Similar species:** *P. paludicola*, which have larger glumes and perianth bristles present.

**Origin:** *Schoinos* = a rush; *plectos* = twisted; *pulchellus* = beautiful, pretty.



#### Measurements

Culm height: < 1.52 m  
Inflorescence: NA  
Bract length: 20-70 mm  
Spikelet length: 4-15 mm  
Nutlet length: 2.5-3.0 mm

## *Schoenoplectus triqueter* (L.)

Palla  
(CYPERACEAE)

**Synonyms:** *Scirpus triqueter* L.



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Large, robust, rhizomatous, perennial grass-like plant. **Culms:** Solitary, greyish-green, sharply 3-angled below the inflorescence. **Leaves:** Reduced to 1-3 sheaths; lowest scale-like, upper sheath round, 3-angled lighter brown with short blade-like tip. **Inflorescence:** Congested, lower bract looks like continuation of culm, stiff and sharply 3-angled. **Flowers:** Rusty to brown spikelets sessile and stalked, round and densely flowered; reddish brown glumes tightly appressed. **Fruit:** Shiny, yellow to reddish-brown nutlets; biconvex and strongly flattened. **Altitude:** 1-1525 m. **Habitat:** Found close or in brackish water, coastal marshy areas or pools. **Distribution:** Found in WC, EC, MP, GA, NW and NC. **General:** Naturalised species found from the Tropical to warm regions of Northern America, Southern America, Europe, Asia, North Africa, and extending to FSA region. Introduced from Eurasia.

**Origin:** *Schoinos* = a rush; *plectos* = twisted; *triquetum* = three-cornered.

## *SCHOENOXIPHIMUM* Nees

There are ± 8 species worldwide. There are ± 4 species in South Africa.

### **Distribution**

These species are reported from EC, KZN and Lesotho.

### **Descriptive characteristics**

A genus of perennial plants with grass-like, basal leaves. The **culms** are erect with arial nodes. The **inflorescence** is reduced or large panicles. Florets are unisexual and are solitary in the axils of bracts. The female flowers are found in an utricle, towards the base and the male flowers occur higher up. There is no perianth present. **Stamens** 1-3. **Style** 3-branched. **Nutlet** brown, ovate, oblong, elliptic or obovate, 3-angled to somewhat flattened, beaked, smooth.

### **Habitat**

The plants described in the field guide occur in wet marshy places.

### **Notes**

None.



CEvG ©



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#### Measurements

Culm height: 0.16-0.26 m  
Leaf length: NA  
Leaf width:  $\pm 0.5$  mm  
Inflorescence: NA  
Bract length: NA  
Spikelet length: NA  
Nutlet length: 0.7-0.9 mm

## *Schoenoxiphium filiforme* Kük. (CYPERACEAE)

**Synonyms:** *Kobresia filiforme* (Kük.) Koyama



Small, loosely tufted perennial grass-like plant, with lateral above-ground creeping rootstock. **Culms:** Erect with basal nodes. **Leaves:** Grass-like, arising from the culm, with ligules. **Inflorescence:** Narrow and compact panicle when young. **Flowers:** Spikelets spread at right angles with axis when mature. **Fruit:** Long thin nutlet. **Altitude:** Up to 2345 m. **Habitat:** Marshy turf, streambanks or wet cliffs. **Distribution:** Found in the EC and KZN; also in Lesotho. **General:** Indigenous specie that is rather inconspicuous in damp grassland. **Similiar species:** *S. molle* and *S. strictum*.

**Origin:** *Schoinos* = rush; *xiphos* = a sword; *filiforme* = thread-like.

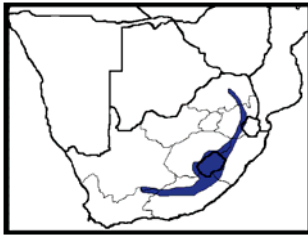
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***Schoenoxiphium rufum*** Nees var.  
***rufum***  
(CYPERACEAE)

**Synonyms:** *Carex buchananii* C.B. Clark; *Kobresia rufa* (Nees) Koyama; *S. ludwigii* Hochst

**Measurements**

Culm height: 0.3-0.6 m  
Leaf length: 203-406 mm  
Leaf width: 4.2-6.4 mm  
Inflorescence: 152-254 mm  
Bract length: NA  
Spikelet length: 8.5 mm  
Nutlet length: 2.1 mm

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Rather coarse, loosely tufted, perennial grass-like plant, with a woody rhizome. **Culms:** Stout and somewhat 3-sided. **Leaves:** Tough and flat. **Inflorescence:** Long panicle with numerous spikelets that droop on slender peduncles. **Flowers:** Spikelets 3-7 flowered; ♀ glume ovate and strongly 13-nerved. **Fruit:** Nut ovoid and 3-sided, smooth and pyramidal at the base, often with an invagination about in the middle of the plane face. **Altitude:** Up to 2345 m. **Habitat:** Common in damp grassland; often among rocks or in damp overhangs; on margins of forest patches or in more open parts of woodlands. **Distribution:** WC, EC, FS, KZN, MP and LP; also in Lesotho. **General:** Indigenous species. **Similar species:** None in South Africa.

**Origin:** *Schoinos* = rush; *xiphos* = a sword; *rufum* = red brown, rusty colour.



## *SCHOENUS* L

There are ± 100 species worldwide, predominantly Australian and Asian. There is only one species found in South Africa, namely *Schoenus nigricans*.

### **Distribution**

This specie is reported from the WC, EC, KZN, FS, MP and NW.

### **Descriptive characteristics**

When flowering, plants may be up to 1 m tall, often shorter; readily recognized by unbranched, leafless, nodeless, erect, smooth stems, each bearing a terminal inflorescence of dark to blackish, compactly arranged florets, surrounded by two bracts, the lower with a long narrow apex, the tip of the upper bract shorter. Plants are generally tussocky and perennial.

### **Habitat**

In the Cape, they occur on undulating dunes (slightly saline) among heath-like vegetation. In KZN known from alluvial sands of river margins, now rare except at Kosi Bay, where there are more extensive stands, on also mildly saline dunes.

### **Notes**

None





## *Schoenus nigricans* L.

(CYPERACEAE)

(E: black bogrush)

**Synonyms:** *S. nigricans* L. var. *aggregatus* in sense of Kük., not of (Thunb.) Kük., *Tetraria capitata* Kük.

### Measurements

Culm height: 0.22-1.50 m  
 Leaf length: 110-1000 mm  
 Leaf width: NA  
 Inflorescence: NA  
 Bract length: NA  
 Spikelet length: 8-10 mm  
 Nutlet length: ± 1.5 mm

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Medium to large, tufted, perennial grass-like plant. **Culms:** Bright dark green. **Leaves:** Basal, with ligula; sheath V-shaped; blade hairy, without keeled midrib. **Inflorescence:** Very dark black, head-like cluster, with bract much longer than inflorescence. **Flowers:** Black spikelets; . **Fruit:** White, sessile or stalked, nutlet. **Altitude:** 5-2200 m. **Habitat:** Along freshwater streams or pools often growing in water. **Distribution:** Found in WC, EC, KZN, FS, MP and NW. **General:** Naturalized specie found from the United States of America, western Europe to northwest India, Somaliland in North Africa, extending to the FSA region. **Similar species:** None.

**Origin:** *Schoinos* = a rush; *nigricans* = black, dark.





## *SCIRPOIDES* Ség.

There are ± 5 species worldwide. There are ± 3 species found in South Africa.

### **Distribution**

These species are reported from WC, EC, NC, FS, NW, GA, LP and MP.

### **Descriptive Characteristics**

Plants are tufted perennials with underground creeping rootstock with young parts covered in golden brown leaf scales. Culms are flattened to almost cylindrical, without any nodes. The leaves are reduced to sheaths. The Inflorescence consists of 1-6 compact roundish heads, with the central one being sessile and the others borne on flattened flowerstalks. The glumes are tightly packed. Stamens 3. Style 3-branched. Fruit 3-angled.

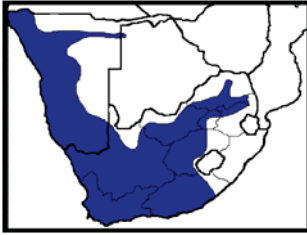
### **Habitat**

Species are found on seasonal floodplains next to streams, rivers, estuaries and seasonal pans

### **Notes**

None





***Scirpoides dioecus*** (Kunth) Browning  
(CYPERACEAE)

(A: biesie)

**Synonyms:** *Scirpus dioecus* (Kunth) Boeck.

**Measurements**

Culm height: 0.25-1.80 m  
Bract length: ± 30 mm  
Spikelet length: 5.0-13.0 mm  
Nutlet length: 0.7-1.2 mm

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Medium to large, robust, perennial reed-like plant;. **Culms:** Basal nodes present; almost round. **Leaves:** Basal, no ligula; sheath V-shaped; no blade or very short, without keeled midrib, profile elliptical. **Inflorescence:** Dense, single, flower heads. **Flowers:** Spikelets light brown; glumes spirally arranged. **Fruit:** Nutlet 3-angled, elliptic to obovate. **Altitude:** 0-1710 m. **Habitat:** Common in floodplains and seasonal grass plains. **Distribution:** Found in the WC, EC, KZN, FS, MP, LP, NW and NC; also in Botswana and Namibia. **General:** Cosmopolitan in temperate regions. **Similar species:** None.



**Origin:** *Scirpoides* = rush-like; *dioecus* = male and female flowers are on separate plants.



#### Measurements

Culm height: 0.25-0.90 m  
Leaf length: 2-5 mm  
Bract length: 3-20 mm  
Spikelet length: 2-5 mm  
Nutlet length: 0.8-0.9 mm

## *Scirpoides thunbergii* (Schrad.) Soj. k (CYPERACEAE)

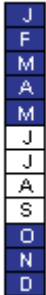
**Synonyms:** *Isolepis thunbergii* Schrad.; *Scirpus holoschoenus* L. var. *thunbergii* (Schrad.) C.B. Clarke; *S. thunbergianus* (Nees) Levyns



Medium, tufted, perennial grass-like plant. **Culms:** Flattened, occasionally round. **Leaves:** Basal, no ligula; sheath V-shaped; no blade or very short, without keeled midrib, profile elliptical. **Inflorescence:** Dense spikelet clusters. **Flowers:** Spikelets brown. **Fruit:** Nutlet 3-angled, elliptic to obovate. **Altitude:** 10-300 m. **Habitat:** Damp flats near the coast. **Distribution:** Found in the WC and EC. **General:** Endemic from the Cape Peninsula to the Eastern Cape. **Similar species:** None.



**Origin:** *Scirpoides* = rush-like; *thunbergii* = named after Carl Thunberg, a renowned botanist and student of Linnaeus, who collected widely in South Africa.



## ***SCIRPUS* L.**

There are ± 20 species worldwide, found mostly in the northern hemisphere and ± 4 in southern Africa.

### **Distribution**

These species are reported from EC, KZN, FS, MP, LP, NW, GA and NC; also in Lesotho and Swaziland.

### **Descriptive characteristics**

The plants are usually tufted perennials; sometimes with runners. **Culms** with basal nodes. **Leaves** are linear blades that are found basally with ligulas. **Inflorescence** head-like or digitate. **Spikelets** usually with many spirally imbricate glumes. The lowest 1 or 2 glumes are sterile. The upper is bisexual and fertile. The uppermost glume has male florets or is empty. **Perianth** of 0-6 rough bristles which are rarely plumose. **Stamens** 1-3. **Style** slender, elongate, rarely short, passing gradually into ovary, 2- or 3-branched, deciduous or sometimes persistent. **Nutlet** oblong or obovoid, biconvex or 3-angular.

### **Habitat**

Usually found in wet places.

### **Notes**

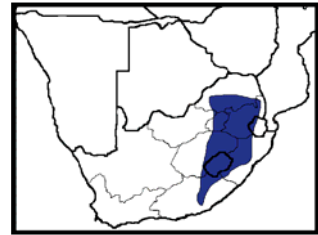
This genus is currently being redefined. In recent years the following southern Africa genera have been removed from *Scirpus* in the broad sense: *Bolboschoenus*, *Isolepis* (including *Eleogiton*), *Kyllingiella*, *xycaryum*, *Pseudoschoenus*, *Schoenoplectus* and *Scirpoides*. It is likely that *Scirpus* in its strict sense does not occur in southern Africa.

### Measurements

Culm height: 0.15-0.60 m  
Leaf length: NA  
Leaf width: NA  
Inflorescence: NA  
Bract length: NA  
Spikelet length: NA  
Nutlet length: NA

## *Scirpus ficinioides* Kunth (CYPERACEAE)

**Synonyms:** *Isolepis ficinioides* (Kunth) Steud



Small to medium, perennial grass-like plant. **Culms:** Firm, erect, rounded with basal nodes. **Leaves:** Basal, sometimes arising from the culm, with ligula, linear blade. **Inflorescence:** Sessile cluster of spikelets, appearing lateral, with long culm-like bract overtopping the inflorescence. **Flowers:** Dark reddish brown glumes overlapping and spirally arranged. **Fruit:** NA **Altitude:** 915-2990 m. **Habitat:** In wet grasslands or along edges of streams. **Distribution:** Found in the EC, FS, KZN, MP, LP and GA; also in Lesotho and Swaziland. **General:** Indigenous specie that may be useful as indicator of underground water. **Similar species:** *S. falsus*. Species may also be mistaken for a species of *Schoenoplectus*, *Ficinia* or *Juncus*.

**Origin:** *Scirpus* = club rush; *ficinioides* = like a fig.

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## *SCLERIA* L.

There are ± 250 species worldwide with ± 12 species found in South Africa.

### **Distribution**

These species are reported from EC, KZN, MP, LP, NW and GA.

### **Descriptive characteristics**

*Scleria* plants, annual or perennial, vary greatly in size and appearance; from large, rhizomatous, or tufted, leaf-bearing perennials, sometimes forming extensive stands; to much shorter, slender herbs in damp to dry soils, usually as isolated individuals or small groups, that flourish during the favourable growing season, annual plants die off leaving the underground parts to regenerate in the following favourable season.

The features that apply throughout the genus are:

1. Female and male spikelets are clustered within the inflorescences. At maturity, a female spikelet contains a single fruit, containing a single seed.
2. For most large plants, these fruits are match-head size or larger, smooth surfaced or elaborately sculpted, sometimes hairy. All with distinct bases. The herbs with short-lived above-ground parts produce pin-head sized fruits, also sculpted.
3. Fruits are white, mauve, purple, fawn or brown when mature.

### **Habitat**

Generally grow in permanent water or wet to damp places. Many taxa are shade-dwellers.

### **Notes**

The large plants are usually in permanent water, e.g. *S. angusta*, *S. melanophala* and *S. poiformis*. Smaller plants usually grow in wet to damp sandy soils or drier grassveld conditions, these include species like *S. achenii* and *S. aterrima*.

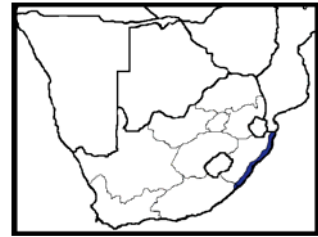


### Measurements

Culm height: 1.37-2.5 m  
Leaf length: 1200 mm  
Leaf width: 6-16 mm  
Inflorescence: 30-60 mm  
Bract length: NA  
♂ Spikelet length: 3.5-4.0 mm  
Nutlet length: 2.25-3.50 mm

## *Scleria angusta* Nees ex Kunth (CYPERACEAE)

Synonyms: —



Tall, stout, perennial grass-like plant, with evergreen aerial parts and creeping rootstocks. **Culms:** Tall, leafy; hairless below and hairy above. **Leaves:** Borne along the culm; sheaths smooth or densely hairy below the mouths; blades linear, pleated; some leaves with praemorse apices, but, usually abruptly and unequally narrowed towards a pointed tip. **Inflorescence:** Compact, terminal panicle; leafy bracts. **Flowers:** Sessile ♂ spikelet; glumes pale brown with reddish streaks. **Fruit:** Nuts ovoid to almost spherical; smooth, porcelain-like, with purple or violet blotches. **Altitude:** 10-90 m. **Habitat:** Coastal swamp forests, occasionally in flowing water found in shade or partial shade. **Distribution:** Found in EC and KZN. **General:** Indigenous specie found along the entire coastline of KwaZulu Natal and the Eastern Cape. **Similar species:** None.

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**Origin:** *Scleria* = From the Greek word skleros meaning hard referring to the stony nutlet; *angusta* = narrow.





***Scleria distans*** Poir.  
(CYPERACEAE)

**Synonyms:** *S. nutans* Kunth

**Measurements**

Culm height: 0.19-0.59 m  
 Leaf length: ± 180 mm  
 Leaf width: 1.5-5.0 mm  
 Inflorescence: 25-85 mm  
 Bract length: 4-12 mm  
 Spikelet length: 4-5 mm  
 Nutlet length: 1.2-1.5 mm

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Perennial grass-like plant. **Culms:** Hairless or the angles sparsely hirsute; base sometimes thickened to 7 mm. **Leaves:** Hairless or hairy, with sheath mouth truncate or convex. **Inflorescence:** Unbranched, with bracts densely pale-reddish or blackish-ciliate, awned. **Flowers:** Glumes with pale red streaks; densely pale-reddish or blackish-ciliate, awned. **Fruit:** Grey or grey-brown, ovoid to subglobose, smooth nutlet. **Altitude:** 15-1300 m. **Habitat:** Found in open, permanently wet boggy areas, usually sandy, in the summer rainfall areas, margin of small vleis with other hygrophilous grasses and sedges. **Distribution:** Found in EC, KZN, MP, LP, NW and GA. **General:** Indigenous species found in Southern America, Brazil and Venezuela; in Tropical Africa, Nigeria, Gabon, Zaire, Uganda, Tanzania, Zambia, extending southwards to the FSA region. **Similar species:** *S. aterrima*.



**Origin:** *Scleria* = From the Greek word skleros meaning hard referring to the stony nutlet; *distans* = separating.





### Measurements

Culm height: 1.40-2.28 m  
Leaf length: NA  
Leaf width: 20-40 mm  
Inflorescence: 100-200 mm  
Bract length: NA  
Spikelet length: 3.5-5.0 mm  
Nutlet length: 3.0-3.5 mm

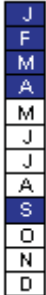
## *Scleria poiformis* Retz. (CYPERACEAE)

Synonyms: —

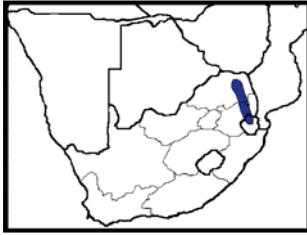


Large, perennial grass-like plant. **Culms:** Hairless. **Leaves:** Crowded towards the base; often with corky bases up to 5 mm thick; sheaths usually split almost to the base from a concave mouth. **Inflorescence:** A single terminal panicle; bracts usually absent. **Flowers:** Sessile ♂ spikelets, with reddish-brown, hairless or hairy glumes. **Fruit:** Smooth, grey-brown, ovoid to subglobose, nutlet. **Altitude:** 8-10 m. **Habitat:** Forms almost pure stands in open habitats in shallow lakes or in coastal pans. **Distribution:** Found in northern KZN. **General:** Indigenous species found in India, Malaysia, Philippines, northern Australia, Zanzibar, Mafia Island, Madagascar and Mozambique southwards to FSA region. **Similar species:** None.

**Origin:** *Scleria* = hard; *poiformis* = From *poaeformis* meaning looking like sorghum grass.



CJW ©



***Scleria transvaalensis*** E.F.Franklin  
(CYPERACEAE)

**Synonyms:** —

**Measurements**

Culm height: 0.45-1.30 m  
 Leaf length: NA  
 Leaf width: 4-10 mm  
 Inflorescence: 45-90 mm  
 Bract length: NA  
 Spikelet length: 4-6 mm  
 Nutlet length: 2.5-3.0 mm

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Medium to large, leafy, perennial, grass-like plant. **Culms:** Woody, swollen base, 9-10 mm wide. **Leaves:** Subulate, hairless; sheath with deltoid-rounded tongue. **Inflorescence:** Dense golden or reddish panicles; leaf-like bract awn-like, sometimes exceeding the inflorescence. **Flowers:** ♂ spikelets sessile or with short pedicels; glumes reddish brown with green midrib. **Fruit:** Brownish-white nutlet; oblong-subglobose. **Altitude:** Up to 1900 m. **Habitat:** Occurs in seasonally damp, open or semi-shaded areas. **Distribution:** Found in MP and LP; also in Swaziland. **General:** Endemic **Similar species:** *S. natalensis*, which do not have bulbose culm bases.



**Origin:** **Origin:** *Scleria* = From the Greek word skleros meaning hard referring to the stony nutlet; *transvaalensis* = from Transvaal (former Gauteng, Mpumalanga, Limpopo and North West).

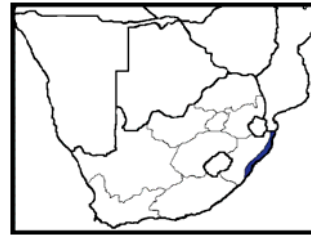


#### Measurements

Culm height: 0.79-1.19 m  
Leaf length: 300-600 mm  
Leaf width: 2.5-5.0 mm  
Inflorescence: ± 90 mm  
Bract length: NA  
Spikelet length: 7-9 mm  
Nutlet length: 2.5-3.0 mm

### *Scleria achtenii* De Wild. (CYPERACEAE)

**Synonyms:** —



A fairly short, underground-creeping, leafy perennial grass-like plant. **Culms:** Hairless or sparsely hairy. **Leaves:** Hairy on ribs and sheaths; hairless below sheath mouths. **Inflorescence:** Terminal panicle with smaller lateral panicles at 2-3 nodes; bracts leafy. **Flowers:** Sessile or shortly peddiced ♂ spikelets; glumes stramineate or reddish-striate; ♀ spikelet glumes similar. **Fruit:** Nutlets sparsely to densely hairy, round, with fingers of tissue to the basal cup. **Altitude:** 8-450 m. **Habitat:** Permanently wet habitats often in peripheral zone to swamp forests and in soil rich in loam. **Distribution:** Found in KZN. **General:** Indigenous species found from the Democratic Republic of Congo, Mozambique, Zambia, southwards to the FSA region. **Similar species:** *S. unguiculata*, which has narrower leaves.

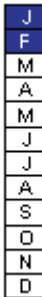
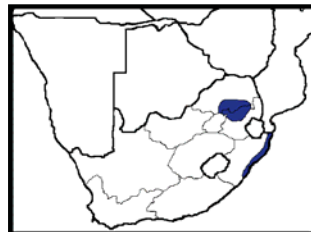
**Origin:** *Scleria* = From the Greek word skleros meaning hard referring to the stony nutlet; *achtenii* = Named after L.T. Achten, a plant collector in the Belgian Congo.

#### Measurements

Culm height: 0.29-0.88 m  
Leaf length: 100-250 mm  
Leaf width: 2-3 mm  
Inflorescence: 40-180 mm  
Bract length: 6-7 mm  
♂ Spikelet length: 6 mm  
Nutlet length: 1.2-1.5 mm

### *Scleria aterrima* (Ridl.) Napper (CYPERACEAE)

**Synonyms:** *S. catophylla* C.B. Clarke; *S. hirtella* Sw. var. *aterrima* Ridl.



Perennial grass-like plants, often with soft fleshy shoots arising from the culm cluster. **Culms:** Solitary or clustered, densely hairy. **Leaves:** Crowded towards base, usually villous; mouths of sheath truncate or concave, densely villous. **Inflorescence:** Unbranched with 4-15 clusters of 1-7 reflexed spikelets; bracts glumiform, densely black and hairy. **Flowers:** Black glumes densely hairy, hairs purplish black. **Fruit:** Grey or grey-brown, smooth, nutlet; broadly ovoid to globose. **Altitude:** 30-1435 m. **Habitat:** Wet soil, marshy areas or open permanent wet areas. **Distribution:** Found in KZN, MP, LP and GA. **General:** Indigenous species found widespread in east, central and west tropical Africa southwards to the FSA region. **Similar species:** *S. nutans*.

**Origin:** *Scleria* = From the Greek word skleros meaning hard referring to the stony nutlet; *aterrima* = Referring to the coal-black glumes.

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***Scleria dieterlenii*** Turrill  
(CYPERACEAE)

**Synonyms:** *S. flexuosa* in sense of E.A.Rob.,  
not of Boeck.

**Measurements**

Culm height: 0.15-0.45 m  
Leaf length: NA  
Leaf width: 1.0-2.5 mm  
Inflorescence: 20-80 mm  
Bract length: NA  
Spikelet length: 4-5 mm  
Nutlet length: 1.3-1.8 mm

Perennial grass-like plant, with slender underground creeper which terminate in a swollen, reddish striate tuber; ± 0.3 m. **Culms:** Clustered; hairless or sparsely villous. **Leaves:** Hairless or sparsely villous; sheaths with truncate or concave, villous mouths. **Inflorescence:** Unbranched, rarely with one basal branch; with awned bracts. **Flowers:** Sessile spikelets; glumes orange-brown with red lines. **Fruit:** Grey nutlet, almost round, cross-barred and warty. **Altitude:** Up to 2450 m. **Habitat:** Occur in seasonal bogs or shallow marshy soil over rock sheets. **Distribution:** Found in EC, KZN, MP, LP and GA; also in Lesotho and Swaziland. **General:** Indigenous specie found from the Ivory Coast, Sierra Leone, Guinea, Angola, Zambia, Zimbabwe, southwards to the FSA region.



**Origin:** *Scleria* = From the Greek word skleros meaning hard referring to the stony nutlet; *dieterlenii* = Collector Dieterlen.

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***Scleria dregeana*** Kunth  
(CYPERACEAE)

**Synonyms:** *S. holcoides* Kunth; *S. meyeriana* Kunth

**Measurements**

Culm height: 0.2-1.0 m  
Leaf length: NA  
Leaf width: 2-3 mm  
Inflorescence: 10-100 mm  
Bract length: ± 35 mm  
Spikelet length: 4.5-6.0 mm  
Nutlet length: 1.5-2.0 mm

Perennial grass-like plant, with two different propagative stems. **Culms:** Clustered, with sometimes soft round, shoots from the base of the culm. **Leaves:** Mouth of sheath truncate, villous below. **Inflorescence:** Unbranched or with a few short basal branches. **Flowers:** Blackish-red, red-brown or pale with glumes, smooth or sparsely hairy. **Fruit:** Nutlet with tubercles and cross-barred towards the tip. **Altitude:** 610-1950 m. **Habitat:** Along wet streambanks, in open, permanent vleis, or in marshy ground associated with rocky outcrops. **General:** Indigenous specie found from the Congo, Tanzania, Malawi, Angola, Zambia, Zimbabwe southwards to the FSA region.



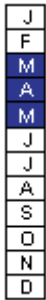
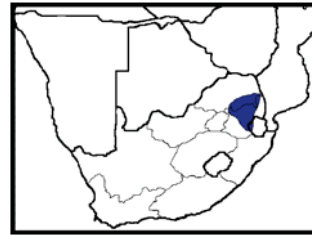
**Origin:** *Scleria* = From the Greek word skleros meaning hard referring to the stony nutlet; *dregeana* = Named after Johann Dr ge, German horticulturist, botanical collector and traveller who came to the Cape in 1826.

#### Measurements

Culm height: 0.23-0.65 m  
Leaf length: 60-400 mm  
Leaf width: 2-7 mm  
Inflorescence: 25-50 mm  
Bract length: NA  
Spikelet length: 4-5 mm  
Nutlet length: 3-4 mm

### *Scleria foliosa* Hochst. ex A.Rich. (CYPERACEAE)

Synonyms: —



Medium, tufted, annual grass-like plant, without underground creeper. **Culms:** Hairless. **Leaves:** Hairless blades with rough margins and ribs. **Inflorescence:** Terminal panicle with smaller lateral panicles at 1-3 nodes; bracts leaf-like and exceeding panicles. **Flowers:** Sessile ♂ spikelets; ♀ glumes castaneous or dark-brown with green midrib that end in 1mm awn. **Fruit:** Smooth, grey nutlet. **Altitude:** 610-1950 m. **Habitat:** Occurring in seasonally shallow pans. **Distribution:** Found in MP, LP and GA; also in Swaziland. **General:** India, East, Central and West Africa southwards to FSA region. Indigenous. Ethnomedicinal uses. **Similar species:** None, as nutlet is quite distinct.

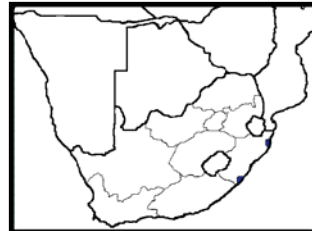
**Origin:** *Scleria* = From the Greek word skleros meaning hard referring to the stony nutlet; *foliosa* = leafy.

#### Measurements

Culm height: 1.15-2.15 m  
Leaf length: 500-1200 mm  
Leaf width: 5-12 mm  
Inflorescence: ± 150 mm  
Bract length: NA  
♂ Spikelet length: 4.5-5.5 mm  
Nutlet length: 4-6 mm

### *Scleria greigiifolia* (Ridl.) C.B.Clarke (CYPERACEAE)

Synonyms: *Acriulus greigiifolius* Ridl.



Large, robust perennial, grass-like plant with a woody rhizome. **Culms:** Leafy towards the base and rough on the angles. **Leaves:** Crowded towards base of culm with stiff blades which are rough on the margins and ribs. **Inflorescence:** Lax terminal panicle with leafy bracts. **Flowers:** Sessile ♂ spikelets with reddish-black glumes. **Fruit:** Smooth, grey nutlet. **Altitude:** Up to 500 m. **Habitat:** Open permanent bogs or shallow lakes. **Distribution:** Found in KZN. **General:** Indigenous species found from Madagascar, Tropical Africa southwards to the FSA region which often co-occur with *Cyperus papyrus*. **Similar species:** *S. melanophala*, which do not have leaves crowded at the base and a more dens panicle.

**Origin:** *Scleria* = From the Greek word skleros meaning hard referring to the stony nutlet; *greigiifolia* = unknown.

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***Scleria melanomphala*** Kunth  
(CYPERACEAE)

**Synonyms:** —

**Measurements**

Culm height: 0.60-1.80 m  
Leaf length: 200-600 mm  
Leaf width: 7-20 mm  
Inflorescence: 30-110 mm  
Bract length: NA  
Spikelet length: 10-12 mm  
Nutlet length: 4-5 mm

Medium to large, perennial grass-like plant. **Culms:** Hairless or smooth. **Leaves:** Spaced evenly along culm; sheath mouths with convex tongue with a pale membranous margin. **Inflorescence:** Spike-like compact panicles; with leafy bracts. **Flowers:** Reddish brown or blackish-red glumes, next to the axis. **Fruit:** Grey nutlet ovoid, beakless, with blackish tip. **Altitude:** 2-1040 m. **Habitat:** Often in fairly extensive stands in permanently wet, usually fairly open habitats. In the Okavango plants are found in permanent water in backswamps and in seasonally inundated floodplains. **Distribution:** Found in EC, KZN, MP and LP; also in Swaziland. **General:** Indigenous specie which occurs in Argentina, Brazil, Paraguay, and widespread in tropical Africa southwards to FSA region. It is used in east Africa to treat dysmenorrhoea. **Similar species:** *S. greigiifolia*, where the leaves are not evenly spaced along the culm.



**Origin:** *Scleria* = From the Greek word skleros meaning hard referring to the stony nutlet; *melanomphala* = With a black head.

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***Scleria natalensis*** C.B. Clark  
(CYPERACEAE)

(A: snygras)

**Synonyms:** -

**Measurements**

Culm height: 0.53-1.00 m  
Leaf length: NA  
Leaf width: 4-11 mm  
Inflorescence: 25-65 mm  
Bract length: NA  
Spikelet length: 4-6 mm  
Nutlet length: 2.5 mm

Medium, tufted, perennial grass-like plant. **Culms:** With 2-4 mm bases. **Leaves:** Ensiform, hairless; sheath with deltoid rounded tongue with membranous extension. **Inflorescence:** Terminal panicle; with smaller panicles at 2-3 nodes; bracts exceeding the panicles. **Flowers:** Light brown spikelets. **Fruit:** Brownish-white 3-sided nutlet. **Altitude:** 5-1000 m. **Habitat:** Grow in semi-shade, wet or seasonally moist seepage areas, open or slightly shaded moist areas. **Distribution:** Found in the EC and KZN. **General:** Endemic species in KZN and the eastern Cape. **Similar species:** *S. transvaalensis*, which have a thick, bulbous culm base



**Origin:** *Scleria* = From the Greek word skleros meaning hard referring to the stony nutlet; *natalensis* = From Natal (KZN).

#### Measurements

Culm height: 0.15-0.45 m  
Leaf length: NA  
Leaf width: 1-2 mm  
Inflorescence: 20-65 mm  
Bract length: NA  
Spikelet length: 4-5 mm  
Nutlet length: 1.4-1.8 mm

### *Scleria pergracilis* (Nees) Kunth (CYPERACEAE)

**Synonyms:** *Hypoporum pergracile* Nees



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Small to medium, slender, tufted, annual grass-like plant. **Culms:** Hairless. **Leaves:** Hairless or the sheaths minutely pilose towards the truncate or concave mouths. **Inflorescence:** Unbranched or with one short basal branch bearing a single glomerule; bracts acuminate, shorter than or slightly exceeding the spikelets. **Flowers:** Glumes hairless, pale with red-brown striate or wholly reddish-brown. **Fruit:** Grey with brown stripe nutlet, hairless. **Altitude:** Up to 1065 m. **Habitat:** Open, seasonally, wet, marshy areas in neutral or acidic soils. **Distribution:** Found in KZN. **General:** Uncommon, indigenous species found widely distributed throughout Tropical Africa. **Similar species:** *S. dieterlenii*.



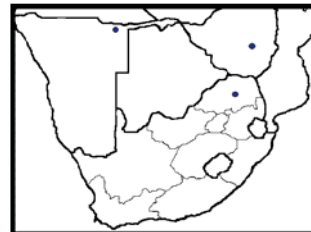
**Origin:** *Scleria* = From the Greek word skleros meaning hard referring to the stony nutlet; *pergracilis* = around slender and graceful.

#### Measurements

Culm height: 0.43-1.67 m  
Leaf length: NA  
Leaf width: 1.0-3.5 mm  
Inflorescence: 40-170 mm  
Bract length: NA  
Spikelet length: 4-5 mm  
Nutlet length: 1.25-2.00 mm

### *Scleria rehmannii* C.B.Clarke (CYPERACEAE)

**Synonyms:** —



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Medium to large, perennial grass-like plant, with a thick, woody, yellow scaled underground creeping rootstock. **Culms:** Hairless, separated 5-10 mm. **Leaf:** Villous to hairless; sheath mount developed into a triangular hairy or hairless tongue. **Inflorescence:** Branched or unbranched; stiffly erect; bracts shortly awned. **Flowers:** Glumes hairless and shortly awned. **Fruit:** Broadly ovoid or subglobose nutlet, smooth or tuberculate. **Altitude:** 300-1000 m. **Habitat:** Occurs in seasonal or permanent bogs in open grasslands. **Distribution:** Found in LP; also in Namibia and Zimbabwe. **General:** Widespread indigenous species found from the Democratic Republic of Congo, Tanzania, Malawi, Angola, Zambia, Zimbabwe, Mozambique southwards to the FSA region. **Similar species:** *S. welwitschii*.



**Origin:** *Scleria* = From the Greek word skleros meaning hard referring to the stony nutlet; *rehmannii* = Named after the Austrian-polish plant collector Dr Antoni Rehmman, (1840-1917).

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***Scleria sobolifer*** E.F.Franklin  
(CYPERACEAE)

Synonyms: —

**Measurements**

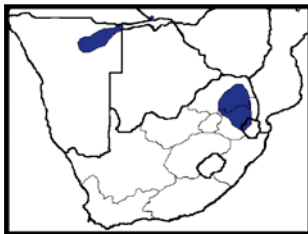
Culm height: 0.18-1.00 m  
Leaf length: NA  
Leaf width: 1.1-2.6 mm  
Inflorescence: 20-65 mm  
Bract length: NA  
Spikelet length: 4 mm  
Nutlet length: 1.5-1.8 mm

Small to medium, perennial grass-like plant, with no underground creepers. **Culms:** Soboles 3-sided, thick, hard whitish with wine-red blotches; hairless or smooth. **Leaves:** Hairless, sparsely hirsute abaxially; mouth of sheath truncate, hirsute. **Inflorescence:** Unbranched. **Flowers:** 2-6 sessile spikelets; glumes glabrous or sparsely hirsute or midrib stramineous with red striate. **Fruit:** Nutlet is patterned between the stipe and the body. **Altitude:** 5-450 m. **Habitat:** Found in open, usually sandy seasonally damp areas among other hygrophilous grasses and sedges. Peripheral to swamp forest. **Distribution:** Found in the EC and KZN. **General:** Endemic to the coastal belt of KwaZulu-Natal and Eastern Cape.



**Origin:** **Origin:** *Scleria* = From the Greek word skleros meaning hard referring to the stony nutlet; *sobolifer* = with creeping stems that form roots.

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***Scleria unguiculata*** E.A.Rob.  
(CYPERACEAE)

Synonyms: —

**Measurements**

Culm height: 0.08-1.20 m  
Leaf length: NA  
Leaf width: 1.4-5.0 mm  
Inflorescence: ± 30 mm  
Bract length: NA  
Spikelet length: 4-5 mm  
Nutlet length: 2.7 mm

Medium to large, tufted, perennial grass-like plant with thickened culm bases. **Culms:** Hairless with slightly swollen bases. **Leaves:** Hairless to sparsely pilose; mouths of sheaths truncate or convex. **Inflorescence:** Elongated terminal panicle, with shorter lateral panicles on slender drooping peduncles; bracts leaf-like. **Flowers:** **Fruit:** Grey or light brown, hairy nutlet. **Altitude:** 10-940 m. **Habitat:** Found in perennially damp, open areas. **Distribution:** KZN; also Botswana. **Distribution:** KZN; also in Botswana. **General:** Indigenous species recorded from Sudan, Democratic Republic of Congo, Tanzania, Zambia southwards to the FSA region. **Similar species:** *S. nyasensis*, which has not been recorded from the FSA region.



**Origin:** **Origin:** *Scleria* = From the Greek word skleros meaning hard referring to the stony nutlet; *unguiculata* = claw-like.



#### Measurements

Culm height: 0.3-1.0 m  
Leaf length: mm  
Leaf width: 2-3 mm  
Inflorescence: 60-250 mm  
Bract length: NA  
Spikelet length: 5-8 mm  
Nutlet length: 1.5-1.8 mm

### *Scleria welwitschii* C.B.Clarke (CYPERACEAE)

Synonyms: —



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Medium, perennial grass-like plant, with tick, woody red-scaled underground creeping rootstock.



**Culms:** Villous to hairless. **Leaves:** Hairless to villous; sheath mouth forming a triangular or round tongue. **Inflorescence:** With drooping rachis; branched or unbranched. **Flowers:** Sessile spikelets, glumes tawny, smooth, pale straw-coloured, with faint reddish streaks. **Fruit:** **Altitude:** 1067-1845 m. **Habitat:** Occurring in very wet, permanently boggy grasslands. **Distribution:** **General:** Indigenous specie found from Malawi, Angola, Zimbabwe, southwards to the FSA region.. **Similar species:** *S. rehmannii*, which have pale woody underground creeping rootstock.



**Origin:** **Origin:** *Scleria* = From the Greek word skleros meaning hard referring to the stony nutlet; *welwitschii* = Named after Dr. Friedrich Martin Josef Welwitsch, Austrian-born expert on proteas.

#### Measurements

Culm height: 0.25-0.75 m  
Leaf length: ± 300 mm  
Leaf width: 1-3 mm  
Inflorescence: 80-200 mm  
Bract length: NA  
Spikelet length: 2.5-5.0 mm  
Nutlet length: 1.5-1.8 mm

### *Scleria woodii* C.B.Clarke (CYPERACEAE)

Synonyms: —



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A slender, perennial grass-like plant with a soft fleshy, strongly scented, white or pink, tuberous underground creeping rootstock. **Culms:** Solitary or few; clustered, hairless. **Leaves:** Blade V-shaped. **Inflorescence:** Delicate and many branched panicle. **Flowers:** Glumes pale red with darker red lines. **Fruit:** Ovoid to subglobose nutlet; smooth and hairless. **Altitude:** 15-2000 m.



**Habitat:** Widespread in seasonal, boggy open areas or damp woodlands in partial shade and mixed grassland. **Distribution:** Found widespread in EC, KZN, FS, MP, LP and GA; also in Swaziland. **General:** Indigenous species found from Tanzania, Angola, Zambia, Zimbabwe and southwards to the FSA region. **Similar species:** None.



**Origin:** *Scleria* = From the Greek word skleros meaning hard referring to the stony nutlet; *woodii* = Named after John Medley Wood, the curator of the Durban Botanical Garden for the period 1882-1913.

## ***TETRARIA* Beauv.**

There are ± 40 species worldwide. There are ± 35 species found in South Africa.

### **Distribution**

These species are reported from WC and EC.

### **Descriptive characteristics**

Herbaceous or woody, mainly tufted perennials. The leaves have conspicuous sheaths with flat to cylindrical blades, which are sometimes absent. Ligules are sometimes present. The several to many spikelets are usually bisexual. The bracts are two ranked but occasionally spiral. Flowers are 1-4 but usually 2. Stamens usually 3, occasionally 6-8. Style branches are mainly 3 but sometimes 4-9. The fruit is a stalked or sessile nutlet. Only two of the species are considered obligate wetland plants, namely, *T. paludosa* and *T. secans*.

### **Habitat**

The two species included in this Guide occur in marshy areas.

### **Notes**

None



#### Measurements

Culm height: < 1.00 m  
Leaf length: NA  
Leaf width: NA  
Inflorescence: NA  
Spikelet length: 6 mm  
Nutlet length: NA

## *Tetraria paludosa* Levyns (CYPERACEAE)

Synonyms: —



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Medium, densely tufted, perennial grass-like plant. **Culms:** Nodeless between the spikelets and the basal leaves. **Leaf:** Stout basal leaf about half the length of the flowering stem; sheath firm, dark red; ligule short with inconspicuous lobes. **Inflorescence:** Contracted panicle; with leaf-like bracts. **Flowers:** Reddish, lanceolate spikelets. **Fruit:** Ellipsoidal, 3-sided nutlet with hispid beak. **Altitude:** 0-180 m. **Habitat:** Marshy areas on lower mountain slopes above Camps Bay and Hout Bay. **Distribution:** Found in the Western Cape. **General:** Critically endangered, endemic species that was found in the Camps Bay area over 50 years ago.

**Origin:** *tetra* = four, referring to the first described specie, which had its floral parts in fours; *paludosus* = marshy.

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***Tetraria secans*** C.B.Clarke  
(CYPERACEAE)

(A: bergklapper)

**Synonyms:** *T. robusta* (Kunth) C.B.Clarke var. *secans* (C.B.Clarke) Kük

**Measurements**

Culm height: < 2.50 m  
 Leaf length: 305 mm  
 Leaf width: ± 4.2 mm  
 Inflorescence: 305 mm  
 Bract length: NA  
 Spikelet length: ± 8.5 mm  
 Nutlet length: ± 4.2 mm

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Robust, tufted, perennial grass-like plant; up to 2.5 m. **Culms:** 3-sided with nodes scattered along the culm. **Leaf:** Long broad leaf blades. **Inflorescence:** Dense panicle. **Flowers:** Spikeletes dusky brown. **Fruit:** Oval nutlet with pointed tip and 6 bristles. **Altitude:** 200-765 m. **Habitat:** Marshy areas along forests margins below 200 m. **Distribution:** Found in the WC and EC from Humansdorp to Riversdale. **General:** Endemic to Cape Flora Region. **Similar species:** None.

**Origin:** *tetra* = four; *secans* = To seek.



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## ***TRIANOPTILES* Fenzl.**

There are ± 3 species endemic to the Western Cape and therefore in South Africa.

### **Distribution**

These species are endemic to the WC.

### **Descriptive characteristics**

The plants are tufted annuals that are related to *Carpha*. It differs from these genera in having spikelets of two kinds and at different heights. Bisexual spikelets are greenish with 3-5 bracts, found on the aerial inflorescences. The female spikelets are partly hidden by the basal leaf. The subterranean fruit of these female spikelets were originally described as bulbils. Stamens 3. Style branches 3. All three the species, *T. capensis*, *T. solitaria* and *T. stipitata* are obligate wetland plants.

### **Habitat**

Found occasionally in damp places on the flats and lower mountain slopes.

### **Notes**

None





***Trianoptiles capensis*** (Steud.) Harv.  
(CYPERACEAE)

**Synonyms:** *Carpha capensis* (Steud.) Pfeiff.;  
*Ecklonea capensis* Steud.

**Measurements**

Culm height: < 0.30 m  
Leaf length: 2.5-3.1 mm  
Leaf width: NA  
Inflorescence: 51-89 mm  
Bract length: NA  
Spikelet length: NA  
Nutlet length: NA

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Small, slender, tufted, annual grass-like plant. **Culms:** Leafy along culm. **Leaf:** Shorter than culms. **Inflorescence:** spikelets in loose clusters with 5 bracts. **Flowers:** Bisexual, greenish spikelets. **Fruit:** Yellow-brown nutlet. **Altitude:** 30-670 m. **Habitat:** Damp, sandy areas on the Cape Flats or on the lower mountain slopes. **Distribution:** Found from Ceres to Cape Peninsula to Knysna. **General:** Endemic to Western Cape.

**Origin:** *Triaina* = a trident; *ptilon* = a plume; *capensis* = from the Cape.



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**Measurements**

Culm height: < 0.20 m  
Leaf length: NA  
Leaf width: NA  
Inflorescence: NA  
Bract length: NA  
Spikelet length: NA  
Nutlet length: NA

***Trianoptiles solitaria*** (C.B.Clarke)  
Levyns  
(CYPERACEAE)



**Synonyms:** *Carpha solitaria* (C.B.Clarke) Pfeiff.;  
*Ecklonea solitaria* C.B.Clarke



Small, tufted, annual grass-like plant. **Culms:** Shorter than leaves. **Leaf:** Along the culm. **Inflorescence:** Solitary spikelets, occasionally in pairs on a flat axis. **Flowers:** Spikelets greenish with 3 bracts; perianth scales densely hairy. **Fruit:** Fruit close the main axis. **Altitude:** ± 70 m. **Habitat:** Damp, sandy areas on the Cape Flats from Maitland to Kenilworth. **General:** Critically endangered, endemic species to the Western Cape which was rediscovered in 2008 in a small locality.

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**Origin:** *Tri* = three; *anopetales* = with upright petals; *solitaria* = single.

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***Trianoptiles stipitata*** Levyns  
(CYPERACEAE)

**Synonyms:** —

**Measurements**

Culm height: < 0.48 m  
 Leaf length: mm  
 Leaf width: mm  
 Inflorescence: 60-250 mm  
 Bract length: mm  
 Spikelet length: 5-8 mm  
 Nutlet length: mm

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Small, annual grass-like plant; up to 0.2 m. **Culms:** With aerial nodes. **Leaf:** Basal and arising from the culm; no ligula; sheath tip blunt; linear blade with no keeled midrib. **Inflorescence:** Paniculate, among basal leaf. **Flowers:** Greenish bisexual spikelets with stalked ovary. **Fruit:** Obovate nutlet, 3-angled. **Altitude:** ≤ 685 m. **Habitat:** Damp, sandy areas on the Cape Flats or on the lower mountain slopes. **Distribution:** Found in the WC and NC from the Bokkeveld Mountains to Caledon. **General:** Little information is available on this species. **Similar species:** *T. capensis*.

**Origin:** *Tri* = three; *anopetales* = with upright petals; *stipitata* = with a stipe.



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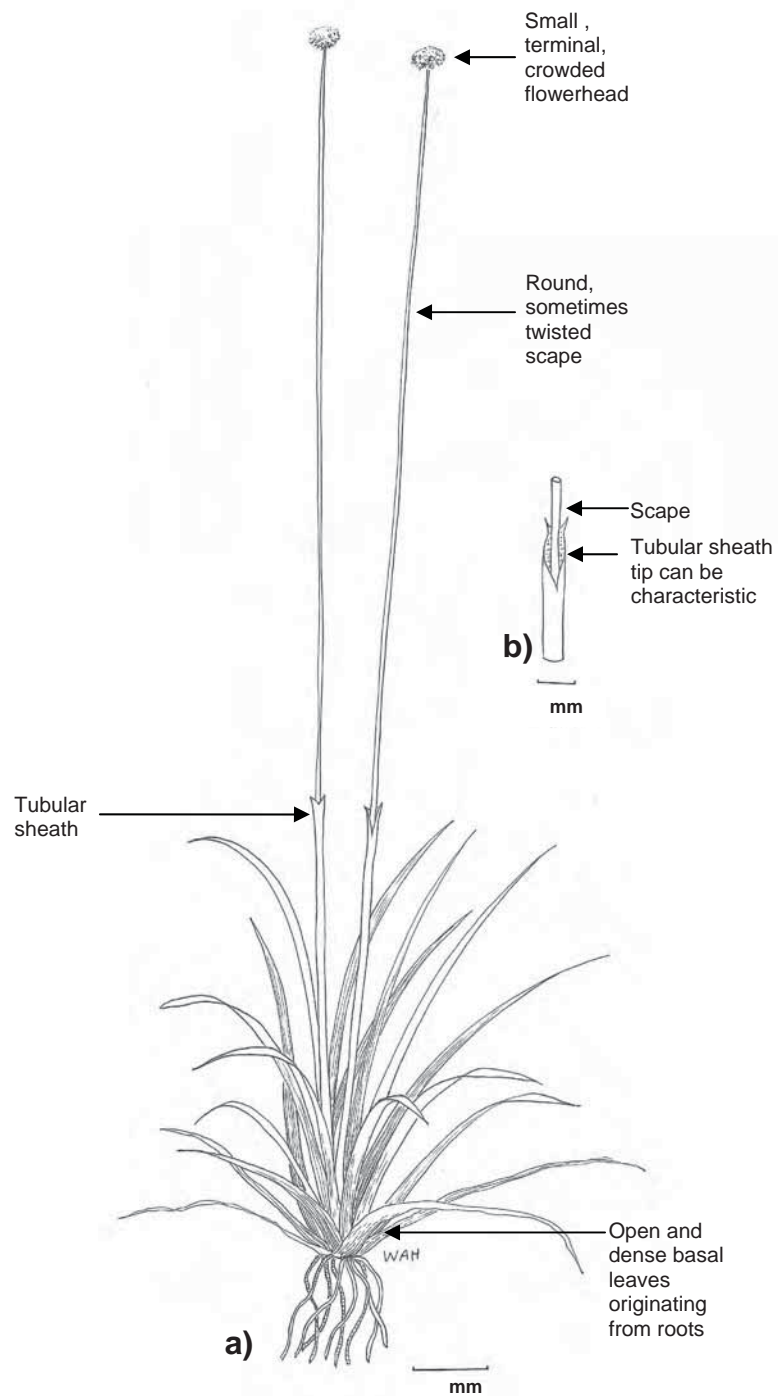


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Line illustration of a *Eriocaulon* sp. showing the characteristics. a) Complete plant showing the rootstock, tufted leaf base, leaf sheaths, scape and characteristic flowerhead, b) the sheath tip around the cylindrical scape.

# ER CA ACEAE (ERIOCA LONS)

Worldwide 250-400 species are found in tropical and subtropical environments. In Southern Africa ±14 species are found widespread in all provinces, except in the Western Cape.

## Distribution

The species are found throughout South Africa in the EC, FS, KZN, MP, LP, NW, GA and NC.



## Descriptive characteristics

The family is easily recognised by its **flowerhead** of small crowded flowers, terminal on a leafless scape, and surrounded by involucral bracts. **Scapes** enclosed by a sheath, are single, often twisted and enclosed by a tubular sheath at the base. The leaves are usually crowded, seem to come from the roots, are grass-like and often have white spongy latticed tissue at the base. The flowerheads are reminiscent of Compositae, but unlike that family, are never brightly coloured; occurring in shades of white, dirty grey, brown or black. Plants have separate male and female **flowers** per plant, and only rarely have male or female plants. Petals with a sub-apical or apical black gland on the inner surface, often white-hairy at the tip. The **stamens** are twice as many as the petals.

## Habitat

Plants are found in very wet conditions on river banks, in seepage areas and in the shallow waters of lakes and pools.

## Notes

The Family is not considered an economical important group in South Africa. Pollination is by insects or self-pollination. The dispersal of the seeds are unknown, but most probably in the mud on the feet of water associated birds.

Identification of most species is difficult due to the small size of the flowers and because different species often grow together around the margins of drying pools and runoffs. Patterns on the seed are important for identification and the assistance of specialist herbarium scientists may be necessary to identify to species level.



#### Measurements

Culm height: 0.06-0.17 m  
Leaf length: 100-250 mm  
Leaf width: 10 mm  
Inflorescence: 60-250 mm  
Floral bract length: mm  
Flower width: ± 10 mm  
Nutlet length: ± 0.6 mm

## *Eriocaulon dregei* Hochst. (ERI CA LACEAE)

(SS: nyokana-ea-likhoho)

**Synonyms:** *Eriocaulon dregei* Hochst. var. *dregei*



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Medium, perennial, herbaceous plant. **Culm:** Scape surrounded by closed sheath at base. **Leaves:** Crowded, grass-like, linear-acuminate, apex obtuse ending in a very small knob. **Inflorescence:** Few, white, smooth, disc-like; ± 10 mm in diameter. **Flowers:** Densely covered in setae, greyish-white sessile flowers. **Fruit:** A capsule. **Altitude:** 15-2000 m. **Habitat:** Marshes and stream courses. **Distribution:** Found in EC, KZN, MP and LP. **General:** None. **Similar species:** *E. sonderianum*, which have long tapering thread-like leaf tips.

**Origin:** *Eriocaulon* = From the Greek word erion, meaning wool and kaulos meaning plant stem; *dregei* = Named after Johann Franz (or Frantz) Dr ge, 19th century German-born botanical collector and horticulturist.

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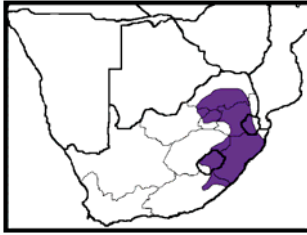
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***Eriocaulon sonderianum*** K. rn.  
(ERI CA LACEAE)

**Synonyms:** *Eriocaulon baurii* N.E. Br.; *Eriocaulon dregei* Hochst var. *sonderianum* (K. rn.) Oberm.

**Measurements**

Scape height: 0.07-0.26 m  
 Leaf length: 15-350 mm  
 Leaf width: 2-5 mm  
 Inflorescence: 4-11 mm  
 Floral bract length: 2.8-3.4 mm  
 Flower length: 1.7-2.5 mm  
 Nutlet length: 0.6-0.7 mm

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Small, rosette-like, colony forming perennial. **Culm:** Usually solitary scape; 6-ribbed. **Leaves:** Spongy at base, elongate-triangular, straight or curved outwards; tapering to a thread-like tip; sheath usually longer than scape, split at tip end into 3 or more papery lobes. **Inflorescence:** Heads ± spherical or slightly flattened, hairy, woolly; entire male heads common. **Flowers:** Dirty white; hemispherical and woolly hairy. **Fruit:** A capsule; seed uncommon, broadly ellipsoid and mid-brown. **Altitude:** 30-2200 m. **Habitat:** Stream margins in montane areas. **Distribution:** Found in EC, KZN, FS, MP, LP, NW and GA; also in Lesotho and Swaziland. **General:** Indigenous species found from Zimbabwe, Malawi, Mozambique towards the FSA region. **Similar species:** *E. dregei*, which has rounded leaf tips.



**Origin:** *Eriocaulon* = From the Greek word erion, meaning wool and kaulos meaning plant stem; *sonderianum* = Named after Otto Wilhelm Sonder (1812-1881), German botanist and pharmacist, author with William Henry Harvey of the first three volumes of the 7-volume *Flora Capensis*.



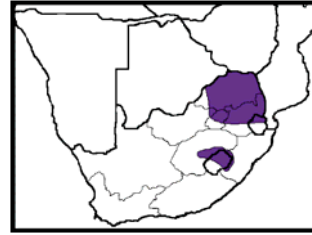
#### Measurements

Culm height: 0.01- 0.10 m  
Leaf length: 10-50 mm  
Leaf width: 0.3-1.7 mm  
Inflorescence: 1.5-3.0 mm  
Floral bract length: 1.2-1.5 mm  
Flower length: ± 1.0 mm  
Seed length: ± 0.35 mm

### *Eriocaulon abyssinicum*

Hochst.  
(ERI CA LACEAE)

**Synonyms:** *Eriocaulon gilgianum* Ruhland,  
*E. ciliisepalum* Rendle, *E. subulatum* N.E. Br



Small, tufted, dome-shaped, annual. **Culm:** Slender scape surrounded by closed sheath at base. **Leaves:** Crowded, grass-like, light green, often with spongy latticed tissue at base; longer than sheath and tapering to a fine tip. **Inflorescence:** Dense, dark head-like. **Flowers:** Grey to black, sessile flowers. **Fruit:** Seed ellipsoid to broadly ellipsoid, brown, glossy, coat very faintly net-like. **Altitude:** 95-2015 m. **Habitat:** Stream and river banks; seepage areas and marshes. **Distribution:** Found in the EC, FS, KZN, MP, LP, GA; also in Lesotho, Namibia and Swaziland. **General:** Widely distributed pioneer species that are indigenous. **Similar species:** *E. abyssinicum* intergrades with *E. welwitschii*; This species is also often confused with *E. mutatum*, which has shorter, broader leaf, and *E. cinereum*, which has white anthers and oblong obtuse flower bracts.

**Origin:** *Eriocaulon* = From the Greek word erion, meaning wool and kaulos meaning plant stem;  
*abyssinicum* = From Ethiopia (Abyssinica).

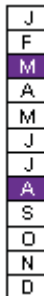
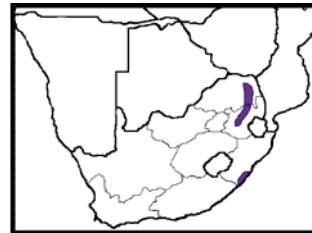
#### Measurements

Culm height: 0.07-0.26 m  
Leaf length: 15-350 mm  
Leaf width: 2-5 mm  
Inflorescence: 4-11 mm  
Floral bract length: 2.8-3.4 mm  
Flower length: 1.7-2.5 mm  
Nutlet length: 0.6-0.7 mm

### *Eriocaulon africanum* Hochst.

(ERI CA LACEAE)

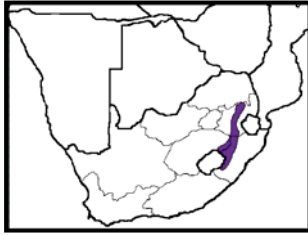
**Synonyms:** *Eriocaulon natalensis* Schinz,  
*Eriocaulon woodii* N.E.Br.



Very small to medium, tufted, aquatic perennial. **Culm:** Slender, single, ribbed scape surrounded by closed sheath at base. **Leaves:** Submerged, linear, basal rosette. **Inflorescence:** Dense, sub-globose white terminal head. **Flowers:** White, sessile flowers; white anthers; white-hairy petals exceeding the blackish floral bracts. **Fruit:** A capsule; seeds plumpy ellipsoid, very pale brown and translucent, almost smooth with a faint reticulate patterning. **Altitude:** 140-1680 m. **Habitat:** On the edges or submerged in fast flowing water. **Distribution:** Found in the EC, KZN, MP and LP also in Lesotho, Namibia and Swaziland. **General:** This indigenous species is extremely variable; probably depending on environmental conditions. **Similar Species:** None

**Origin:** *Eriocaulon* = From the Greek word erion, meaning wool and kaulos meaning plant stem;  
*africanum* = From Africa.

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## *Eriocaulon hydrophilum*

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(ERI CA LACEAE)

**Synonyms:**

### Measurements

Culm height: 0.02-0.34 m  
Leaf length: 10-100 mm  
Leaf width: 0.8-2.5 mm  
Inflorescence: 2-5 mm  
Floral bract length:  $\pm$  1.5 mm  
Flower length: 2.0-3.8 mm  
Nutlet length: 0.5-0.6 mm

Small, submerged annual. **Culm:** Scape surrounded by closed sheath at base. **Leaves:** Basal rosette; long filiform tips. **Inflorescence:** Black emerging flower head. **Flowers:** Black; anthers black; petals absent. **Fruit:** A capsule; testa of seed with transverse, white fringed ridges. **Altitude:** 1600-2400 m. **Habitat:** Pans and streams. **Distribution:** KZN, FS and MP; also Lesotho. **General:** **Similar species:** None.



**Origin:** *Eriocaulon* = From the Greek word erion, meaning wool and kaulos meaning plant stem; *hydrophilum* = Plant favours wet conditions.



## *Eriocaulon maculatum* Scinz. (ERI CA LACEAE)

**Synonyms:**

### Measurements

Culm height: 0.02-0.10 m  
Leaf length: 5-15 mm  
Leaf width: 1-2 mm  
Inflorescence: 3-5 mm  
Floral bract length:  $\pm$  3 mm  
Spikelet length: 1.0-1.5 mm  
Nutlet length: 0.35 mm

Small, annual plant. **Culm:** Scape, straight, 4-ribbed; surrounded by closed sheath at base that is as long as leaves. **Leaves:** Basal rosette; linear and apiculate. **Inflorescence:** Brown-grey to black emerging flower head, spherical to slightly dome-shaped. **Flowers:** Black; anthers black; petals with a smooth margin; 2 boat-shaped sepals. **Fruit:** A capsule; testa of seed with transverse, white fringed ridges; glossy, reddish-brown seeds with a white reticulate pattern. **Altitude:** 960-1479 m. **Habitat:** Moist sandy areas along streams, marshes or temporary wet places. **Distribution:** Found in MP and LP. **General:** Indigenous species also found in Zambia and southern Tanzania. **Similar species:** *E. strictum*, which has narrow filiform leaves and a different seed pattern.



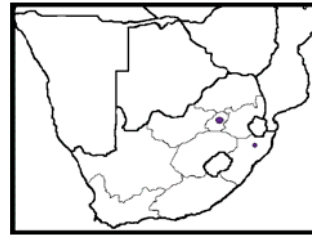
**Origin:** *Eriocaulon* = From the Greek word erion, meaning wool and kaulos meaning plant stem; *maculatum* = Spotted.

#### Measurements

Culm height: 0.01-0.10 m  
Leaf length: < 10 mm  
Leaf width: 0.20-0.35 mm  
Inflorescence: 1.0-2.5 mm  
Floral bract length: 0.8-1.1 mm  
Flower length: 0.4-1.2 mm  
Nutlet length: 0.3 mm

### *Eriocaulon mutatum* N.E.Br.

var. *angustisepalum*  
(ERI CA LACEAE)



**Synonyms:** *Eriocaulon angustisepalum* H.E.Hess; *Eriocaulon mutatum* N.E.Br. p.p.



Very small, rosette-like annual. **Culm:** Filiform, 2-4 ribbed scape surrounded by closed sheath at base, which can be shorter or longer than the leaves. **Leaves:** Basal rosette ; filiform tapering to slenderly acuminate tip. **Inflorescence:** Black emerging flower head, round or slightly dome-shaped with loose bracts between flowers lighter than the flowers. **Flowers:** Black; anthers black; petals with a smooth margin; 2 boat-shaped sepals. **Fruit:** A capsule; testa of seed with transverse, white fringed ridges ; smooth, ellipsoid, brown seed. **Altitude:** Up to 1700 m. **Habitat:** Moist sandy areas along streams, marshes or temporary wet places. **Distribution:** Found in KZN and GA. **General:** Indigenous species found from Southern Tanzania to the South African region. **Similar species:** *E. abyssinicum*.

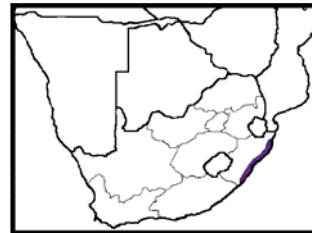
**Origin:** *Eriocaulon* = From the Greek word erion, meaning wool and kaulos meaning plant stem; *mutatum* = changing; *angustisepalum* = narrow sepals.

#### Measurements

Culm height: 0.08-0.19 m  
Leaf length: 20-50 mm  
Leaf width: 1-2 mm  
Inflorescence: 3.5-4.0 mm  
Floral bract length: ± 1.0 mm  
Flower length: 1.1-1.2 mm  
Nutlet length: 0.35-0.40 mm

### *Eriocaulon schlechteri*

Ruhland.  
(ERI CA LACEAE)



**Synonyms:** *Eriocaulon ruhlandii* Schinz.



Small, annual; between 0.08 to 0.19 m high. **Culm:** 1-5, slender, 5-ribbed scape surrounded by closed sheath at base which do not equal the leaves. **Leaves:** Basal rosette ; few, narrowly linear, thin, acute. **Inflorescence:** Black, emerging, hemispherical, light to dark-greyish brown flower head. **Flowers:** Black; anthers black; petals with a smooth margin; 2 boat-shaped sepals. **Fruit:** A capsule; testa of seed with transverse, white fringed ridges ; yellow to yellowish-brown, elliptic and longitudinally ridged seeds. **Altitude:** 1-120 m. **Habitat:** Marshy ground in coastal areas. **Distribution:** Found in EC and KZN. **General:** Species found from Southern Mozambique southwards to South Africa. **Similar species:** *E. truncate*, which has a larger paler flowerhead.

**Origin:** *Eriocaulon* = From the Greek word erion, meaning wool and kaulos meaning plant stem; *schlechteri* = Named after Friedrich Richard Rudolf Schechter, 20th century botanist.

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### *Eriocaulon transvaalicum*

N.E.Br. subsp. *tofieldifolium* (Schinz.)  
S.M. Phillips  
(ERI CA LACEAE)

#### Measurements

Scape height: 0.07-0.16 m  
Leaf length: 4-7 mm  
Leaf width: 2.5-5.0 mm  
Inflorescence: 6-9 mm  
Floral bract length: mm  
Flower length: 1.5-2.0 mm  
Nutlet length: 0.4-0.6 mm

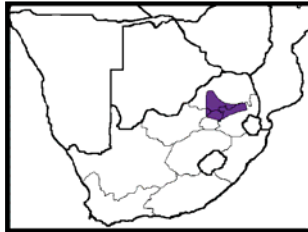
**Synonyms:** *Eriocaulon tofieldifolium* Schinz;  
*Eriocaulon transvaalicum* N.E. Br.

Small, rosette-like, solitary, annual or perennial. **Culm:** Stiff, stout scapes surrounded by closed sheath at base. **Leaves:** Basal rosette ; ensiform. **Inflorescence:** Dense head-like with sessile flowers. **Flowers:** Grey to black; anthers black; petals with a smooth margin; 2 boat-shaped sepals. **Fruit:** A capsule; testa of seed with transverse, white fringed ridges. **Altitude:** 900-1800 m. **Habitat:** Stream margins in montane areas. **Distribution:** Found in MP, LP, NW and GA. **General:** Widespread indigenous species found from Ethiopia, southwards to Angola, Namibia and South Africa. **Similar species:** None, as the broad, thin leaves, many black heads and relatively stout scapes are distinctive.

**Origin:** *Eriocaulon* = From the Greek word erion, meaning wool and kaulos meaning plant stem; *transvaalicum* = From the Transvaal; *tofieldia* = Named after Thomas Tofield, 18th century English botanist; *folium* = Meaning leaf.



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### *Eriocaulon transvaalicum*

N.E.Br. supsp. *transvaalicum*  
(ERI CA LACEAE)

#### Measurements

Culm height: 0.04-0.15 m  
Leaf length: 40-50 mm  
Leaf width: 4-7 mm  
Inflorescence: ± 5 mm  
Floral bract length: mm  
Flower length: mm  
Nutlet length: mm

**Synonyms:** *Eriocaulon transvaalicum*  
N.E.Br. p.p.

Small, annual or perennial, solitary plants. **Culm:** Scape surrounded by closed sheath at base. **Leaves:** Aerial, basal rosette. **Inflorescence:** Dark, shiny black smooth flower head with acute bracts. **Flowers:** Grey to black, with white setae on bracts, sepals and petals; anthers black. **Fruit:** A capsule ; with turberculate seeds. **Altitude:** 210-1500 m. **Habitat:** Vleis and pools. **Distribution:** Found in LP and GA; also in Namibia. **General:** Indigenous species found also in Botswana and Zimbabwe. **Similar species:** See previous species.

**Origin:** *Eriocaulon* = From the Greek word erion, meaning wool and kaulos meaning plant stem; *transvaalicum* = From the Transvaal.





#### Measurements

Scape height: 0.01-0.12 m  
Leaf length: 10-50 mm  
Leaf width: 0.2-1.0 mm  
Inflorescence: ± 5 mm  
Floral bract length: mm  
Flower length: 0.8-1.0 mm  
Nutlet length: 0.3 mm

### *Eriocaulon welwitschii* Rendle (ERI CA LACEAE)

**Synonyms:** *Eriocaulon aristatum* H. Hess;  
*E. welwitschii* var. *pygmaeum* Rendle.



Small, tufted, annual plants, solitary plants; between 0.02 to 0.07 m high. **Culm:** Numerous slender, 3-4-ribbed scapes forming a dome-shaped mound; surrounded by closed sheath at base which are shorter than the leaves. **Leaves:** Basal rosette; pale green; acicular, fenestrate. **Inflorescence:** Whitish to grey, round to dome-shaped, spiky flower head. **Flowers:** Grey to black, with white setae on bracts, sepals and petals; anthers black. **Fruit:** A capsule; seeds glossy brown and elliptic with faintly reticulate pattern. **Altitude:** 600-1500 m. **Habitat:** In open places on wet sandy soils. **Distribution:** Found in Botswana. **General:** Indigenous species found from Southern Tanzania southwards to South Africa. **Similar species:** *E. abyssinicum*, which has slightly bigger and broader, ellipsoid seed.

**Origin:** *Eriocaulon* = From the Greek word erion, meaning wool and kaulos meaning plant stem; *welwitschii* = Named after Dr. Friedrich Martin Josef Welwitsch, Austrian-born expert on proteas.

#### Measurements

Culm height: 0.05-0.12 m  
Leaf length: 10-30 mm  
Leaf width: 0.4-0.8 mm  
Inflorescence: ± 5 mm  
Floral bract length: mm  
Flower length: 1.5 mm  
Nutlet length: 0.4-0.5 mm

### *Syngonanthus wahlbergii* (Wikstr. ex K n.) Ruhland var. *wahlbergii* (ERI CA LACEAE)

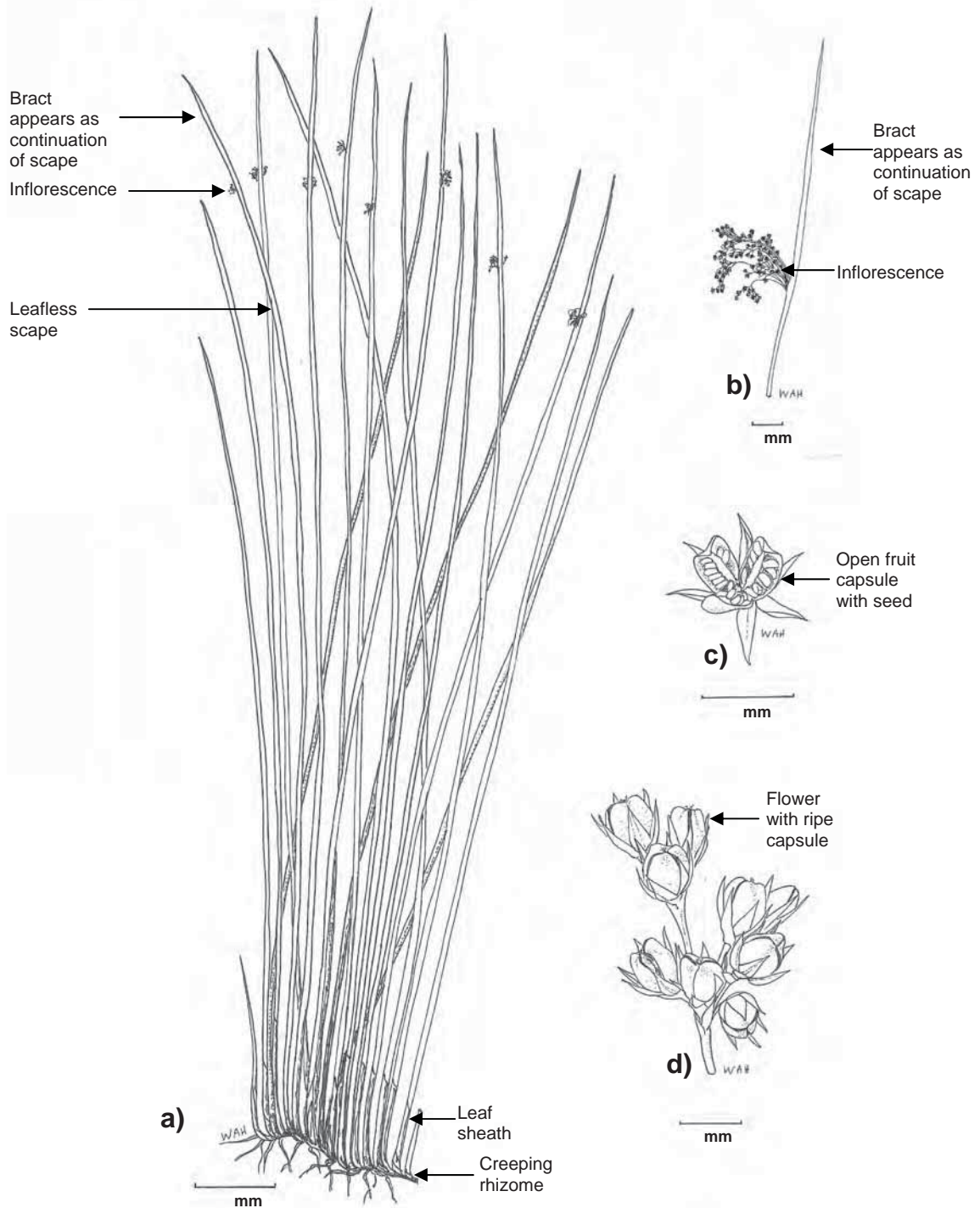
**Synonyms:** *Paepalanthus wahlbergii* Wikstr.  
ex K n.; *Syngonanthus wahlbergii* (Wikstr. ex K n.) Ruhland



Small, compact, perennial, solitary plants. **Culm:** Several to many scapes, 3-ribbed and covered with sparsely to densely covered gland-tipped hairs. **Leaves:** Numerous, submerged in compact basal wooly rosette with incurving tips. **Inflorescence:** Golden brown flower head. **Flowers:** Light to dark-brown. **Fruit:** A capsule, with uniformly brown seeds. **Altitude:** 850-1600 m. **Habitat:** Running water, streams and swamps. **Distribution:** Found in MP, LP and GA. **General:** Leaf rosettes sometimes submerged in shallow water. **Similar species:** None in South Africa.

**Origin:** *Syngonanthus* = From the Greek words, syngonos meaning joined together, and anthos meaning flower; *wahlbergii* = Named after Johan August Wahlberg (1810-1856), a Swedish naturalist and collector that travelled South Africa between 1838 and 1856.





Line illustrations showing the characteristics of *Juncus effusus*. a) Complete plant showing the underground creeping rootstock, the characteristic leaf sheaths, scapes and inflorescences, b) the position of the pseudolateral inflorescence and bract, c) fruit capsule with seed and d) a close-up of the flowers with ripe capsules

# CACEAE

## (RUSHES)

The Juncaceae family is a group of plants consisting of six genera. The largest genus is *Juncus*, a cosmopolitan group with ± 255 species, the majority occurring in the temperate southern Hemisphere; 28 species occur in Africa of which 23 occur in South Africa. Only *Juncus* has some taxa that grow in wetlands.



### Distribution

The species are found throughout South Africa in the WC, EC, FS, KZN, MP, LP, NW, GA and NC; also in Botswana, Lesotho, Mozambique, Namibia, Swaziland and Zimbabwe.

### Descriptive characteristics

*Juncus* or rushes are a group of grass-like plants, either annuals or perennials. Often confused with either grasses or sedges, especially when no flowers are present. The rhizome is short, tufted or hard, woody, creeping horizontally (see photographs below). **Leaves** are either soft, flat, linear arranged basally around tufted rhizome or erect, hard, round, arising from the nodes on the rhizome. Leaf sheaths are attached at the base and clasps tightly around the scape; further up the scape the leaf blade bends away from the scape. At the base of the scape some leaves lack leaf blades and the sheath is reduced to brown scale-like structures arranged around the base of the stem. **Inflorescence** clusters of numerous, small, brown flowers borne on short, sometime branched, stems attached at a central point. Although attached terminally to the scape it most often appears to be a lateral attachment due to the continuation of the inflorescence bract at the base which extends beyond the inflorescence, giving the impression of a lateral attachment to the scape. **Flowers** Unlike grasses and reeds, the flowers of rushes have 6 small, papery, brown petals arranged in 2 whorls; stamens 3 or 6; ovary superior, stigma divided into 3 branches. **Fruit** is a hard capsule, the shape and length is often a distinguishing character in identifying the different species. **Seeds** numerous and minute.

### Habitat

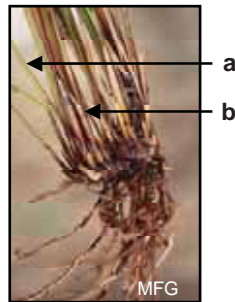
The group is widespread and found primarily in mild to cold conditions in the Southern Hemisphere. They are often found in shallow water on the banks of streams and rivers, in dams or lakes, in vleis and in marshes or seepage areas.

### Notes

Some species are ecologically important and may dominate large areas. The plants are pollinated by wind action or by self-pollination. Vegetative growth is found in a number of species. The seed disperse in water and most probably by animals and birds. Certain plants are used for weaving.



*Juncus lomatophylus* illustrating tufted rhizome with flat, soft leaves arranged around the base



*Juncus effuses* illustrating the creeping, woody rhizome; a, green round leaf; b, brown leaf sheath



*Juncus* sp. illustrating the papery petals arranged in two whorls.

**Measurements**  
 Stem height: 0.02-0.08 m  
 Leaf length: NA  
 Leaf width: NA  
 Capsule length: NA  
 Seed length: 0.3 mm

***Juncus capitatus*** Weigel  
 (J CACEAE)



**Synonyms:**

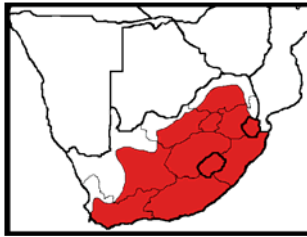


Very small, tufted, annual grass-like plant. **Scape:** Slender and nodeless. **Leaves:** Many, narrow linear; forming a broad, membranous folded sheath. **Inflorescence:** Pseudolateral, with bract forming continuation of culm. **Flowers:** Spikelets green with 3 stigmas; tepals ovate, transparent, pale often pinkish.. **Fruit:** 3-sided capsule with mucro; included in shiny brown perianth; golden-brown seeds obovate, reticulate. **Altitude:** 100-1900 m. **Habitat:** Vlei areas. **Distribution:** WC, FS and GA; also Lesotho. **General:** Rare indigenous species that are a widespread, cosmopolitan species. **Similar species:** None.

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**Origin:** *Juncus* = rush; *capitatus* = with a solid head or tip





*Juncus dregeanus* Kunth subsp.

***dregeanus***

(J CACEAE)

(A: Biesie)

**Synonyms:** *Juncus subcuneatus* Adamson; *Juncus subglobosus* Adamson

**Measurements**

Stem height: 0.10-0.40 m  
 Leaf length: 30-150 mm  
 Leaf width: 0.5-3.0 mm  
 Capsule length: ± 3 mm  
 Seed length: ± 0.25 mm

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Compact, tufted, perennial grass-like plant, with short compact rhizomes; often turning brown when dry. **Scape:** Slender and round, with fine longitudinal lines. **Leaves:** Loose basal rosette, flat, grass-like and narrowly linear; 3-4 times shorter than scape. **Inflorescence:** Terminal, dark brown, crowded and sessile; 1-5 flower heads with the lower bract leaf-like. **Flowers:** Pale to dark brown; 5 to many florets, subequal perianth segments; the outer with spike-like tips. **Fruit:** Spherical capsule and blunt at the tips. Seed spherical with net-like surface, pale with small black pointed tip. **Altitude:** Up to 2840 m. **Habitat:** Along the edge of rivers, marshes, vleis, seasonally flooded areas, always growing amongst hygrophilous grasses. **Distribution:** WC, EC, KZN, FS, MP, LP, NW, GA and NC; also Lesotho and Swaziland. **General:** Naturalised in New Zealand. **Similar species:** *J. capensis*, with an egg shaped capsule, and which is not a wetland specie; as well as *Lu ula Africana*, also not a wetland plant with leaves covered with hairs. Intermediates between *J. lomatophyllus* and *J. dregeanus* have been reported.



En



**Origin:** *Juncus* = rush; *dregeanus* = Named after Johann Drege, German horticulturist, botanical collector and traveller who came to the Cape in 1826.



### Measurements

Stem height: 0.3-1.5 m  
Leaf length: 70-170 mm  
Leaf width: NA  
Capsule length: 2-3 mm  
Seed length: ± 0.5 mm

## *Juncus effusus* L

(J CACEAE)

(E: Soft rush)

**Synonyms:** *Juncus subcuneatus* Adamson; *Juncus subglobosus* Adamson



AL



Densely tufted, mat-forming, perennial, grass-like plant, with hard woody, creeping rhizomes. **Scapes:** Scape stiff, round and with continuous pith; cylindrical, glossy, smooth, bright green. **Leaves:** Bladeless; sheaths reduced to brown scale-like structures arranged around the base of the stem. **Inflorescence:** Loose clusters of numerous small flowers borne on short branches supported by a similar looking bract that extends beyond inflorescence; giving the appearance of being attached laterally one fifth from the top of the stem. **Flowers:** 3 floral bracts; perianth segments finely pointed, lanceolate; stamens 3 or rarely 6. **Fruit:** Broadly ovoid capsule, obtuse at the tip with narrowly ellipsoid seeds that bulge on the one side, golden brown, without appendages. **Altitude:** Up to 2000 m. **Habitat:** Swamps, river and streambeds; often forming a large stand around permanently wet places. **Distribution:** WC, EC, KZN, FS, MP, LP, NW and GA; also Lesotho. **General:** Cosmopolitan; sometimes considered to be introduced into SA. **Similar species:** *J. inflexus*, the tips of the stems do not end in a sharp points; the pith has large airspaces and the capsule is much harder..

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**Origin:** *Juncus* = rush; *effusus* = spreading, straggly. Soft rush' = the stems are not rigid and erect, but soft and pliable.





***Juncus exertus*** Buchenau sub-sp.

***exertus***  
(J CACEAE)

(A: Biesie)

**Synonyms:** *Juncus rostratus* Buchenau

**Measurements**

Stem height: ± 0.60 m  
 Leaf length: ± 400 mm  
 Leaf width: 1-3 mm  
 Capsule length: ± 6 mm  
 Seed length: ± 0.7 mm

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Robust, tufted, perennial grass-like plant with a woody, creeping rhizome. **Scapes:** Rigid, circular and septate with a central gas channel; overtopping the leaves. **Leaves:** Basal, 2-5, roundish, mostly shorter than the stem, distinctly septate with pointed tip; sheaths straw coloured. **Inflorescence:** Cluster, appearing terminal; inflorescence bracts much shorter than the inflorescence; heads obconic. **Flowers:** Borne on wiry branchlets of variable length; perianth segments in 2 whorls of 3; 3-4 mm long, inner whorl longer than outer. **Fruit:** Capsule slender, oblong-ovoid with beak-like tip; 3-angled. **Seed:** Ovoid; with white elongate appendages at each end. **Altitude:** From 200 to 2600 m. **Habitat:** Very wet swamps, stream banks or in shallow water; often forming large stands. **Distribution:** WC, EC, KZN, FS, MP, LP, NW, GA and NC; also Lesotho, Namibia and Swaziland. **General:** Confined to Zimbabwe and southern Africa. **Similar species:** *J. exertus* subsp. *lesuticus*, a much smaller plant which is confined to high altitudes of the Drakensberg. *J. oxycarpus* with a more compacted inflorescence, with the capsule that is egg-shaped and the same length or slightly shorter than the perianth segments, compared to *J. exertus* where the capsule is slender and extends beyond the perianth segments.



**Origin:** *Juncus* = rush; *exsertus* = protruding.





#### Measurements

Scape height: ± 1.0 m  
Leaf length: ± 1000 mm  
Leaf width: 1.5-5.0 mm  
Capsule length: 2-3 mm  
Seed length: 0.7-0.8 mm

## *Juncus kraussii* Hochst subsp. *kraussii* (J CACEAE)



**Synonyms:** *Juncus maritimus* auct., non Lamarck;  
*Juncus fasciculiflorus* Adamson



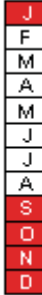
Rigid, tufted, perennial grass-like plant with a compact, woody, rhizome with thick, hairy roots.

**Scapes:** Rigid, circular and smooth. **Leaves:** Long narrow, cylindrical leaves; tightly pressed against the stem; with shiny basal sheaths. **Inflorescence:** Terminal pseudolateral clusters.

**Flowers:** Small, brown at the tips of the stems. **Fruit:** Narrowly ellipsoid 3-angled. **Seed:** Ellipsoid with one side bulging. **Altitude:** Up to 1200 m. **Habitat:** Found in brackish marshy areas along the coast; often forming large stands on salt flats. **Distribution:** WC, EC and KZN; also Mozambique.

**General:** Also occur in Australia and South America. A popular material for weaving, particularly sleeping mats as traditional gift at Zulu weddings. In St. Lucia it may only be gathered during the month of May. **Similar species:** *J. acutus* subsp. *leopoldii*, more robust plant, also growing in coastal brackish waters; and *J. rigidus* with a capsule that extends beyond the perianth segments..

**Origin:** *Juncus* = rush; *kraussii* = after Christian Krauss, 1812-1890 plant collector.



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***Juncus lomatoophyllus*** Spreng  
(J CACEAE)

**Synonyms:** *Juncus capensis* var. *latifolius* E. Meyer; *Juncus viridifolius* Adamson

**Measurements**

Scape height: ± 0.8 m  
Leaf length: 80-200 mm  
Leaf width: 3-15 mm  
Capsule length: ± 2.5 mm  
Seed length: ± 0.8 mm

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Spreading, perennial with densely leafy runners and short, compact, spongy stolons. **Scapes:** Rigid, erect, round, smooth with longitudinal grooves. **Leaves:** Loose basal rosette, flat, soft, broadly linear; shorter than flower scape, soft, usually greyish-green and reddish at base; at higher altitudes shiny-green with yellow base; tips pointed; sheaths absent. **Inflorescence:** Terminal, head-like cluster of numerous branchlets with flowers attached to tips. Inflorescence bract is small and inconspicuous. **Flowers:** 3-12 flowers on solitary floral bracts; perianth segments dark brown; unequal; the outer three with long spine-like tips. **Fruit:** Capsule with beak at tip; much shorter than perianth segments; seeds oblong-sphaerical, pointed at each end. **Altitude:** Up to 1700 m. **Habitat:** Permanently wet places, along streams; often forming a distinct zone in pans and around pools. Sometimes it grows from the bank and floats on the water. **Distribution:** WC, EC, KZN, FS, MP, LP, GA and NC; also Lesotho and Swaziland. **General:** Endemic to South Eastern Africa, naturalized in New Zealand and St Helena; extending from Zimbabwe to the eastern escarpment. The plants are utilised by hippopotamus and other herbivores **Similar species:** *J. dregeanus* with much narrower leaves.



En



**Origin:** *Juncus* = rush; *lomatos* = fringe; *phyllon* = leaves



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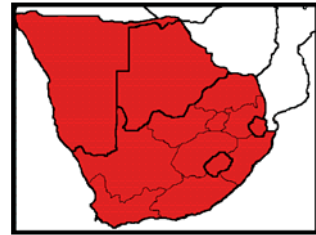


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**Measurements**

Scape height: ± 0.8 m  
 Leaf length: NA  
 Leaf width: NA  
 Capsule length: ± 2.5 mm  
 Seed length: ± 0.7 mm

***Juncus oxycarpus*** E. Mey ex Kunth  
 (J CACEAE)



**Synonyms:** *Juncus brevistylis* Buchenau; *Juncus gentilis* N.E. Brown; *Juncus suboxycarpus* Adamson

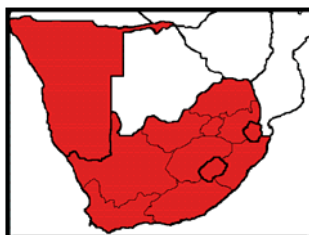


Tufted, perennial, with woody rhizome grass-like plant; when in septa diaphragms; one central gas channel; 3-5 leaves on lower half. **Leaves:** Round, slightly flattened, very definitely septate; 3-5 leaves basally attached, sheathing tightly around lower half of the scape and then opening outwards; mostly shorter than the stem; with pointed tips; sheaths 1-4 at base. **Inflorescence:** Compact, many-flowered, spherical head-like cluster when young, opening up becoming a loose, branched cluster when mature; appearing terminal because inflorescence bract much shorter than the inflorescence. **Flowers:** Perianth segments finely pointed; inner shorter than the outer perianth segments; stamens 3 or 6. **Fruit:** Oblong-ovoid, 3-angled capsule; seed ovoid with drawn-out tip. **Altitude:** Up to 2500 m. **Habitat:** Found in very wet swamps, along stream and river banks; also growing in shallow water; often forming large stands. **Distribution:** WC, EC, KZN, FS, MP, LP, NW, GA and NC; also Botswana, Lesotho, Namibia and Swaziland. **General:** Plants become dwarfed at high altitudes. Confined to E & S Africa, extending from Eritrea south to RSA. **Similar species:** *J. exertus* where the capsule is slender and extends beyond the perianth segments. *J. punctorius* also has septate scapes but with only one long septate leaf arising from each scape.

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**Origin:** *Juncus* = rush; *oxycarpus* = sharp-fruited





## *Juncus punctorius* L.f.

(J CACEAE)

(A: Biesie)

Synonyms: -

### Measurements

Scape height:  $\pm 1.5$  m  
 Leaf length:  $\pm 1.5$  mm  
 Leaf width:  $\pm 4$  mm  
 Capsule length:  $\pm 2.5$  mm  
 Seed length:  $\pm 0.4$  mm

**J** Robust, tufted, perennial, with woody, underground creeping grass-like plant. **Scapes:** Rigid, round with internal septa; pale green. **Leaves:** Only 1 leaf, round, attached at base, sheathing tightly up to middle of scape and then expanding outwards, about as long as the scape; when feeling the leaves can feel internal transverse septa, with pointed tip; 2-3 sheaths at base. **Inflorescence:** Numerous up to 100, small, many-flowered, round head-like clusters, appearing terminal because inflorescence bract much shorter than the inflorescence; borne on wiry branchlets of varying length. **Flowers:** Perianth segments finely pointed; inner shorter than the outer perianth segments, narrowly ovate; stamens 3. **Fruit:** Capsule egg-shaped, 3-angled, same length as perianth segments. **Seeds:** Ovoid with drawn-out tip. **Altitude:** Up to 2200 m. **Habitat:** Found in permanent wet places, swamps, marshes, riverbanks or sometimes in shallow water; often forming large stands. **Distribution:** WC, EC, KZN, FS, MP, LP, NW, GA and NC; also Lesotho, Namibia and Swaziland. **General:** NE Africa to Arabia; Pakistan and in RSA. **Similar species:** *J. exertus* and *J. oxycarpus* which have more than one septate leaf extending up the scape.

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**Origin:** *Juncus* = rush; *punctorius* = spotted.



#### Measurements

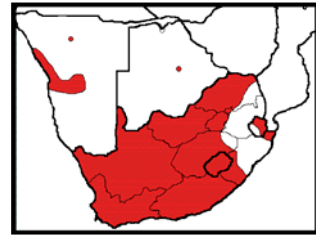
Culm height: 0.4-1.5 m  
Leaf length: NA  
Leaf width: 1.5-3 mm  
Capsule length: 3.5-5.0 mm  
Seed length: 0.6-0.7 mm

## *Juncus rigidus* Desf.

(J CACEAE)

(A: Biesie)

**Synonyms:** *Juncus arabicus* (Ascerson & Buchenau) Adamson



Robust, tufted, perennial grass-like plant with compact creeping woody rhizomes; forming large colonies. **Scapes:** Rigid, circular and smooth. **Leaves:** 2-5 basally attached, sheathing tightly around base of scape, unfolding slightly further up the scape to a round, hard, smooth leaf, similar to scape, mostly shorter than the scape, ending in a stiff, sharp point; 4-5 basal leaf sheaths, widened at the base. **Inflorescence:** Cluster of flowers, loosely branched, two inflorescence bracts, leaf-like with sharp tips, the one almost the same length as inflorescence forming an apparent elongation of the scape, the second is much shorter. **Flowers:** Perianth segments in 2 whorls of 3, yellowish brown, of almost equal length. **Fruit:** Capsule narrowly ovoid, projecting beyond the stamens of the corolla; seeds ovoid, with appendages. **Altitude:** Up to 1300 m. **Habitat:** Found in and around saline pools and marshes, often forming large stands. **Distribution:** WC, EC, KZN, FS, MP, LP, NW and GA; also Botswana, Lesotho, Namibia and Swaziland. **General:** From Arabic Peninsula, Asia Minor and to Pakistan, Sicily and scattered in Africa from north to south. **Similar species:** *J. krausii*, which have denser flower clusters.

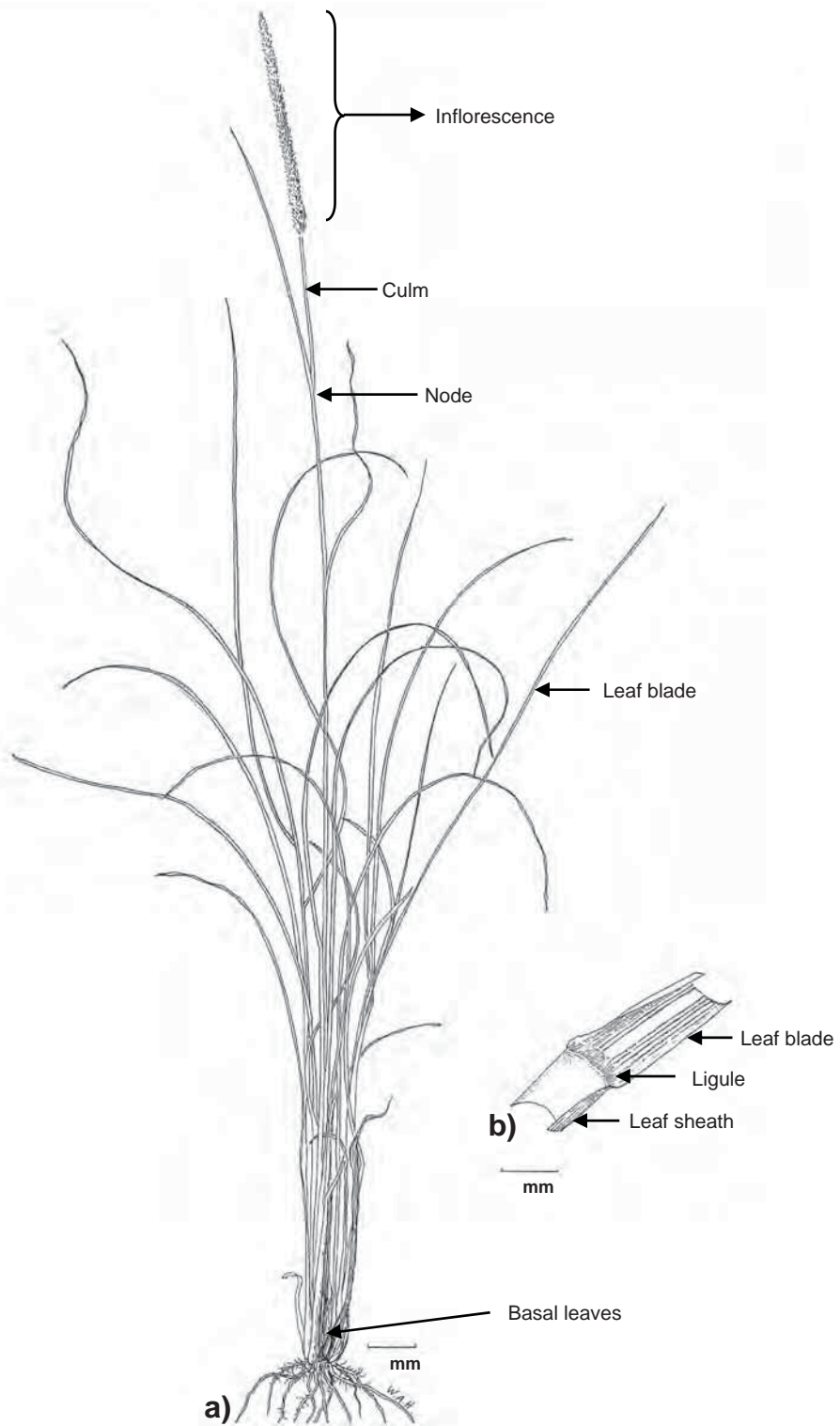
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**Origin:** *Juncus* = rush; *rigidus* = rigid, stiff





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Line illustration of *Pennisetum macrourum*, showing the typical characteristics of the *Poaceae*. a) Complete plant showing the rootstock, leaf base, leaves, culm and terminal inflorescence and b) the leaf sheath, ligule and blade.

# **P ACEAE**

## **(GRASSES REEDS)**



Grasses are the most widespread plant family on earth. It is estimated that the grasslands and savanna globally covers 30 . Grasses have the ability to grow almost everywhere, as there is no country without some grass species. The census by Gibbs Russel *at al.* (1990), lists some 770 genera and 9 700 species world-wide. In South Africa there are some 194 genera with 962 species, sub-species and varieties. Of the 962 species, 847 are indigenous and 115 are naturalised. Of the indigenous taxa, 329 are endemic, occurring only in South Africa.

The 169 species described and illustrated in this book are all primarily obligate plants associated with wetlands or aquatic systems. A number of species are included in the back of the book as they may be found in a wetland or bordering a wetland and are, therefore, important in identifying and classifying wetlands. Some of the species included at the back are facultative wetland plants, and may be indicators of the wetland outline.

Grasses are known to be the group of plants that has the most economic value because of the use in livestock, agriculture, wildlife farming and the number of species that are used as food source.

The beauty of grass flowers are only realised when one starts identifying the grasses and realise the variety of forms and colours that exist. When looking through a magnifying glass one realises the perfection of these minute little flowers.





### Measurements

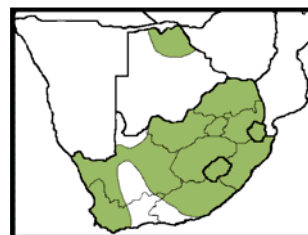
Culm height: 0.30-1.20 m  
Leaf length: 120-240 mm  
Leaf width: 3-5 mm  
Inflorescence: ± 80 mm  
Spikelet length: 5-6 mm  
Awn length: NA

## *Hemarthria altissima* (Poir.) Stapf &

C.E.Hubb.  
(P ACEAE)

(E: Red swamp grass, Batavian quick grass;  
A: Rooikweek, perdegras)

**Synonyms:** *H. fasciculata* (Lam.) Kunth; *Rottboellia compressa* L.f. var. *fasciculata* (Lam.) Hack.



A underground and above ground creeping, perennial grass; often rusty red. **Culms:** Branched above. **Ligule:** Fringed membrane with a band of soft hairs. **Leaves:** Blade flat, 4-6mm wide. **Inflorescence:** A complex cylindrical structure. **Flowers:** Spikelets recessed in reduced leaf-like organs. **Altitude:** 5-2000 m. **Habitat:** Always in wet places in different soils at high water table areas; often a dominant species, along the edge of streams, vleis, dry river beds. It can tolerate prolonged dryness and slightly saline water (2-3 ppm.). **General:** Indigenous species that occurs from the Mediterranean region, India, Burma, Madagascar, southern Tropical Africa, extending southwards to the FSA region. Introduced into America where it was cultivated as pastoral grass in damp soil. Valuable source of grazing in wet areas. It can tolerate overgrazing.

**Origin:** *Hemarthria* = Greek for half segments or fringed joints (inflorescence); *altissima* = Latin for most tall

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***Pennisetum macrourum*** Trin.  
(P ACEAE)

(E: Riverbed grass; A: Beddinggras; jaagbesem)

**Synonyms:** —

**Measurements**

Culm height: 0.8-2.5 m  
Leaf length: 250-600 mm  
Leaf width: 4-11 mm  
Inflorescence: 70-300 mm  
B length: 4-6 mm  
Awn length: NA

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Tall to very tall, densely tufted, perennial grass. **Culm:** Unbranched, rough, directly below the inflorescence. **Ligule:** Hairy. **Leaves:** Leaf blade rough, especially margin; tips rolled. **Inflorescence:** Long, dense, sharp tipped, spike. **Flowers:** Spikelets surrounded by bristles of varying length. **Altitude:** 9-2100 m. **Habitat:** Grows besides rivers and streams, also in seasonal wet places. Grows mostly in sand but also occasionally in clay. **Distribution:** Found in the Fynbos, Savanna and Grassland biomes in WC, EC, MP, LP, NW and GA; also in Lesotho, Swaziland and Zimbabwe. **General:** Indigenous species from Tropical Africa, extending southwards to the FSA region. It plays an important ecological role in protecting riverbanks from flooding. **Similar species:** *P. glaucocladium*, which is a rare grass and larger (up to 3 m); *P. natalensis*, slightly smaller (up to 2 m); *P. sphacelatum*, smaller grass (up to 1.2 m); *P. thunbergii*, smaller (up to 0.8 m).



**Origin:** *Pennisetum* = Latin for feathered bristles (inflorescence); *macroura* = Long tail.



### Measurements

Culm height: 0.5-2.0 m  
Leaf length: 100-400 mm  
Leaf width: 3-8 mm  
Inflorescence: 70-220 mm  
Spikelet length: 2.5-3.5 mm  
Bristle length: 5-7 mm

## *Pennisetum natalense* Stapf (P. ACEAE)

(A: Suurbuffelsgras)

Synonyms: —



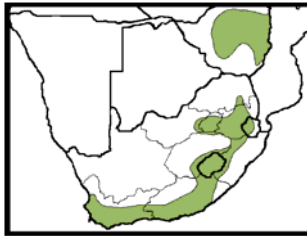
Tall, tufted, reed-like, perennial grass. **Culms:** Nodes brown. **Ligule:** Fringe of hairs. **Leaves:** Leaf blades linear; hard, greyish-green or light green, tips finely pointed. **Inflorescence:** Long, dense, bristly, false, terminal spike. **Flowers:** Spikelets 2-flowered, with bristles twice as long as spikelet. **Altitude:** 200-1600 m. **Habitat:** Forms large tufts in water on river banks and vleis. **Distribution:** Found in the Savanna and Grassland biomes in KZN, MP and LP; also Swaziland. **General:** Indigenous. **Similar species:** *P. macrourum*, which is a larger plant.



**Origin:** *Pennisetum* = Latin for feathered bristles (inflorescence); *natalense* = From Natal (KZN).



CJW ©



## *Pennisetum thunbergii* (POACEAE)

(E: Thunberg's pennisetum; SS: Thitapoho ya mehlaka)

Synonyms:

### Measurements

Culm height: 0.2-1.0 m  
 Leaf length: 100-400 mm  
 Leaf width: 4-7 mm  
 Racemes: 30-80 mm  
 Spikelet length: 3-5 mm  
 Bristle length: 5-14 mm

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Densely tufted, perennial grass. **Culms:** Mostly unbranched culms. **Ligule:** Hairy. **Leaves:** Leaf sheath flattened; tips of leaves long and rolled; rough around the edge with prominent midrib near the base. **Inflorescence:** A short dense spike. **Flowers:** Spikelets surrounded by bristles of differing length. **Seed:** **Altitude:** 25-2600 m. **Wetland type:** Riverine and palustrine. **Habitat:** In damp soil at high altitudes on vlei margins and along the edge of streams. Occasionally found in road reserves and disturbed places. **Distribution:** Fynbos and Grassland biomes. **General:** Indigenous specie found in high altitude areas in Sri Lanka, Yemen and Tropical Africa, extending southwards to the FSA region. The seeds were possibly utilised by man in the past, in times of famine; one of the common names of this grass is elephant grass, which may indicate that elephants utilise this grass as well. **Similar species:** *P. glaucocladum*, *P. macrourum* *P. natalensis* and *P. sphacelatum*, which have taller thinner inflorescences.



**Origin:** *Pennisetum* = Latin for feathered bristles (inflorescence); *thunbergii* = Referring to the Swedish botanist Carl P. Thunberg (1743-1828)



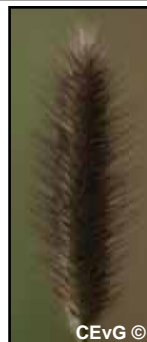
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**Measurements**  
 Culm height: 0.25-1.00 m  
 Leaf length: ± 300 mm  
 Leaf width: NA  
 Inflorescence: 50-80 mm  
 Spikelet length: 4 mm  
 Awn length: NA

***Rhytachne rottboellioides*** Desv.  
 (P ACEAE)



**Synonyms:** —



A densely tufted, perennial grass. **Culms:** Slender, unbranched above. **Ligule:** Unfringed membrane. **Leaves:** Hairless. **Inflorescence:** Solitary, terminal spike-like, raceme. **Flowers:** Spikelets in pairs, one sessile and one on a short stalk and greatly reduced to a short straight awn; lower glume 7-9 nerved that form longitudinal ribs. **Altitude:** 20-300 m. **Habitat:** In swamps and seasonally wet grasslands. **Distribution:** Found in small areas in KZN. **General:** Brazil, West Indies, Madagascar, tropical Africa, extending southwards to FSA region. Rare. **Similar species:** *Schi achyrium sanguineum*, which grows in open veld.

**Origin:** Rhytachne =; rottboellioides = Having features of the genus *Rottboelli* that was named after the Danish botanist, Christen Friis Rottb II (1727-1797).

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***Setaria sphacelata*** (Schumach.) Stapf &

C.E.Hubb. ex M.B.Moss var. ***splendida*** (Stapf)

Clayton  
(P ACEAE)

**Measurements**

Culm height: 1.0-1.8 m  
Leaf length: 100-500 mm  
Leaf width: 3-6 mm  
Inflorescence: 80-240 mm  
Spikelet length: 2.3-2.8 mm  
Awn length: NA

**Synonyms:** *S. splendida* Stapf

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An extremely robust, almost reed-like, perennial grass. **Culms:** Hairless. **Ligule:** Hairy. **Leaves:** Only a few basal leaves. **Inflorescence:** **Flowers:** **Seed:** **Altitude:** 700-1000 m. **Wetland type:** Riverine/palustrine. **Habitat:** Swampy areas or floodplains, often in the water. **Distribution:** Found in the Savanna biome in EC and KZN. **General:** Rare species found from Sudan and extending southwards to the FSA region. It is cultivated, but seldom grows in the veld. **Similar species:** None as it is the most robust variety in the *S. sphacelata* complex.

**Origin:** *Setaria* = Latin for possessing bristles (spikelets); *sphacelata* = Appearing to be dead; *splendidum* = bright.



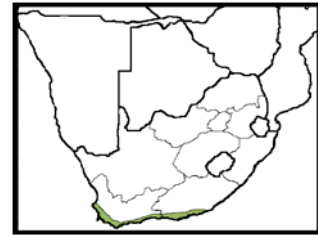
#### Measurements

Culm height: 0.2-0.8 m  
Leaf length: 120-190mm  
Leaf width: NA  
Inflorescence: NA  
Spikelet length: 12-15 mm  
Awn length: 3-10 mm

## *Spartina maritima* (Curtis) Fernald (POACEAE)

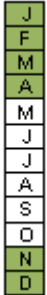
(E: Cape cord grass; A: Kaapse slykgras,  
Strandkweek)

**Synonyms:** *S. capensis* Nees



A stiff, tufted, water-loving, perennial grass with tough creeping rootstock. **Culms:** Erect. **Ligule:** Fringe of hairs. **Leaves:** Dark green, rough, coarse and in-rolled; yellow in winter. **Inflorescence:** Two spikes pressed together. **Flowers:** 1-flowered spikelets, borne on a flattened flower stem; glumes finely hairy, awnless. **Seed:** **Altitude:** 1-100 m. **Habitat:** Estuaries, intertidal mud flats and marshes or submerged in lagoons, forms dense stands just below the high-tide mark. It is one of major pioneers on the mud banks forming a distinct zone in many the estuaries. It can tolerate saline water up to 32ppm. **Distribution:** Found in the Fynbos and Succulent Karoo biomes in WC, EC; also Namibia. **General:** An indigenous or naturalised species from the coastlines of Europe, north & south-west and southern Africa. **Similar species:** None.

**Origin:** *Spartina* = From the Greek meaning a cord made from this grass; *maritimus* = growing by the sea.



CJC



## *Stenotaphrum secundatum*

(Walt.) Kunth  
(P ACEAE)

(E: Seaside quick grass, carpet grass; A: Buffelsgras, strandkweek, lidjiesgras; SS: marothlo-a-mafubelu; : umtombo)

### Measurements

Culm height: 0.06-0.40 m  
Leaf length: 40-150 mm  
Leaf width: 4-10 mm  
Inflorescence: 40-150 mm  
Spikelet length: NA  
Awn length: NA

Synonyms: —

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A hardy, mat-forming, perennial grass, with numerous above ground-creepers. **Culms:** Numerous nodes, producing flowering stems or fan-shaped tufts of leaves. **Ligule:** Fringed membrane. **Leaves:** Hairless, except at ligule; keeled; sheaths strongly flattened, folded with a blunt tip. **Inflorescence:** Spike-like raceme; often partly enclosed in the uppermost leaf, is compact and cylindrical; central axis swollen and flat on one surface. **Spikelets:** Spikelets in hollow cavities on either side of a wavy midrib. **Altitude:** 1-900 m. **Habitat:** A coastal pioneer along beaches and marshes, at saline and fresh water. **Distribution:** A coastal pioneer in WC, EC and KZN. **General:** Indigenous specie occurs in Pantropical and warm temperate areas. Grains serve as famine food during droughts. It has medicinal value and is administered to people only. **Similar species:** *S. dimidatum*, which is rarely found in South Africa, and has a flatter, fleshier inflorescence axis, without the sunken spikelets.



**Origin:** *Stenotaphrum* = From the Greek words, stenos for narrow, and taphros for trench; *secunda* = arranged on one side only.



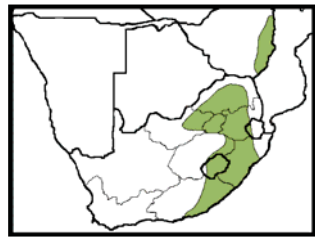


**Measurements**  
 Culm height: 0.15-0.25 m  
 Leaf length: 90-300 mm  
 Leaf width: ± 2 mm  
 Inflorescence: 25-80 mm  
 Spikelet length: 3-4 mm  
 Awn length: NA

***Stiburus alopecuroides*** (Hack.) Stapf  
 (P ACEAE)

(E: Purple vlei grass)

**Synonyms:** —

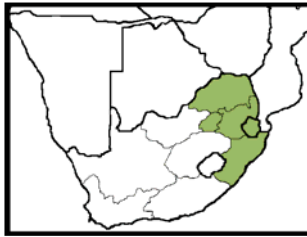


Handsome, short, dense, tufted, perennial grass. **Culms:** Not visible. **Ligule:** Hairy rim. **Leaves:** Numerous, slim, erect and hairy; short, white hairs often just as long or longer than the inflorescence. **Inflorescence:** Closely crowded, soft and fluffy, purple, terminal, spike-like hairy, panicle. **Flowers:** Purple, spikelet; glume and lemmas very densely hairy. **Altitude:** 1200-2900 m. **Habitat:** Wet, fertile soil at the edge of wetlands, at fairly high altitudes, moist soil around vleis, at the edge of wetlands or in fairly, damp, shaded areas. **Distribution:** Highest mountains from Barberton along the Drakensberg to the Wolkberg range. **General:** Indigenous specie which occurs from Zimbabwe and extends southwards to the FSA region. The plants are used in a magical sense. **Similar species:** *S. conrathii*, which is shorter with a light purple inflorescence, and which flowers from August to December.

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**Origin:** *Stiburus* = ; *alopecuroides* = means similar to plants of the genus *Alopecurus* from Greek *alopes*, *ekos* (a fox) and *oura* (a tail), referring to the shape of the inflorescence.





***Agrostis continuata*** Stapf  
(P ACEAE)

**Synonyms:** *A. natalensis* Stapf

**Measurements**

Culm height: 0.60-0.90 m  
 Leaf length: 250 mm  
 Leaf width: 6-8 mm  
 Inflorescence: < 200 mm  
 Spikelet length: ± 5 mm  
 Awn length: NA

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Medium, course, tufted, perennial grass. **Culms:** Unbranched above. **Ligule:** Unfringed membrane. **Leaves:** Linear. **Ligule:** Unfringed membrane. **Inflorescence:** Dense panicle, narrow and spikelike, with overlapping spikelets. **Spikelets:** Light green or brown. Awns bent and twisted. **Altitude:** 1000-2400 m. **Habitat:** Vlei grasslands and wet places, sometimes at high altitudes in Savanna and Grassland biomes. **Distribution:** KZN, MP, LP and GA; also in Lesotho and Swaziland. **General:** Tanzania, extending southwards to FSA region. **Similar species:** *Phalaris arundinacea* (has no awns) and *Koeleria capensis* (has 2-4 flowered spikelets).

**Origin:** *Agrostis* = Greek for a kind of grass; *contineo* = hold together.



### Measurements

Culm height: 0.3-0.9 m  
Leaf length: 70-200 mm  
Leaf width: 2-4 mm  
Inflorescence: 150-400 mm  
Spikelet length: 2-3 mm  
Awn length: NA

*Agrostis lachnantha* Nees var.

***lachnantha***

(P ACEAE)

(E: Bent grass; A: Bandgras, kruipgras, polgras, roggras, vinkagrostis, vinkgras, vleigras)

**Synonyms:** *A. huttonia* (Hack.) C.E. Hubb; *A. lachnantha* Nees var. *glabra* Goss. & Papendorf



A robust, annual or short-lived, perennial grass. **Culms:** Unbranched with dark banded nodes. **Ligule:** Long white membrane. **Leaves:** Linear and thin. **Inflorescence:** Initially green panicle but soon turn straw colour, which make it easy to distinguish from other grasses. **Spikelets:** Dark reddish-purple,. The branches ascending, rachilla not produced; lemmas glabrous. **Altitude:** 15-2900 m. **Habitat:** River banks and wet places. **Distribution:** EC, KZN, NC in Grassland and Afromontane biomes; also in Lesotho. **General:** Indigenous species found from Sudan, Ethiopia along east Africa to the FSA region. **Similar species:** None because of lack of awns.

**Origin:** *Agrostis* = Greek for a kind of grass; *lachnantha* = Greek ( *lakhnē* and *anthos*) meaning an illusion of wooly flowers.

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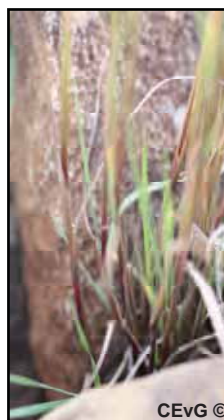
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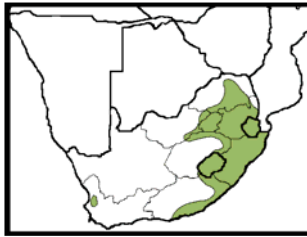
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***Arundinella nepalensis*** Trin.  
(P ACEAE)

(E: River grass; A: Beesgras, Rietgras, riviergras;  
SS: Modula, mohlakamane)

Synonyms: —

**Measurements**

Culm height: ± 1.80 m  
Leaf length: 80-300 mm  
Leaf width: 3-10 mm  
Inflorescence: 120-300 mm  
Spikelet length: 4-6 mm  
Awn length: 3-6 mm

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Underground creeping, tufted, perennial grass. **Culms:** Unbranched. **Ligule:** A narrow, fringed membrane. **Leaves:** Short scale-like, Leaf blades 80-300 mm long, 3-10 mm wide. **Inflorescence:** Dense spike-like panicle. **Spikelets:** Usually in pairs, brown, sometimes tinged green or purple; glumes unequal and acute; lower lemma with a truncate, hairy callus, awns present. **Altitude:** 50-2200 m. **Habitat:** Forms dense stands in vleis, riverbanks and moist grasslands. **Distribution:** WC, EC, KZN, FS, MP, LP, NW and GA; also Lesotho and Swaziland. **General:** South-east Asia, China, Japan, East-Africa, extending southwards to FSA region. Sometimes used as thatching grass and apparently has uses in Lesotho. Medicinal uses, administered to people only. **Similar species:** None.

**Origin:** *Arundinella* = Latin for small *Arundo* (reed); *nepalensis* = Relating to Nepal



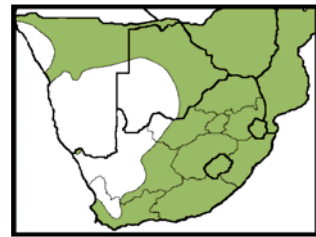
### Measurements

Culm height: < 6.00 m  
Leaf length: < 700 mm  
Leaf width: 80 mm  
Inflorescence: 300-600 mm  
Spikelet length: 8-15 mm  
Awn length: NA

## *Arundo donax* Lesotho (P ACEAE)

(E: Giant reed; A: Spaansriet, Spaansriet)

Synonyms: —

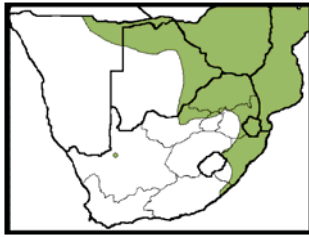


Tall, robust, rhizomatous, perennial grass. **Culms:** Woody, persistent, branched with main culms dominant. **Ligule:** Fringed hairs shorter than the membrane. **Leaves:** Leaf blades deciduous at base, blades rounded or caudate at base, tips not sharp. **Inflorescence:** Open panicle. **Spikelets:** Lemmas with long hairs on back. **Altitude:** 20-1600 m. **Habitat:** Invades watercourses; unlike indigenous reeds often occurs in roadsides and other sites away from water. **Distribution:** WC, EC, KZN, FS and GA. **General:** Introduced from the regions of the Old World, escaped from cultivation. Naturalized. Declared Weed Category 1. Reeds are used in making musical instruments, for hedging, making lattices, mats, screens, ceilings and as a source of industrial cellulose. Medicinal uses, administered to people only. Seldom flowers in the highveld area. **Similar species:** Often confused with the *Phragmites* spp.

**Origin:** *Arundo* = Latin for reed, from the Celtic for water; *donax* = Greek for type of reed in Classical literature, whose pollen was easily dispersed by wind.

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***Bothriochloa bladhii*** (Retz.) S.T. Blake  
(P. ACEAE)

(E: Purple plume grass; A: Blouklosgras)

**Synonyms:** *B. glabra* (roxb.) A. Camus; *B. insculpta* (a. Rich.) A. Camus var. *vegetior* (Hack.) C.E. Hubb.

**Measurements**

Culm height: 0.6-1.8 m  
Leaf length: 100-550 mm  
Leaf width: 2-12 mm  
Inflorescence: 100-250 mm  
Spikelet length: 3-4 mm  
Awn length: NA

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A robust, erect, tufted, perennial grass. **Culms:** Herbaceous, branched or unbranched above. **Ligule:** Membrane, sometimes fringed. **Leaves:** Bright green with white midrib and rough margins; broad and aromatic when crushed. **Inflorescence:** Purple panicle which varies in shape, but looks glued when not completely open; aromatic when crushed. **Flowers:** Spikelets have small inconspicuous pits in the glumes. **Altitude:** 70-1200 m. **Habitat:** Riverine floodplains and vleis, always grows where enough moisture is available. **Distribution:** EC, KZN, MP, LP, NW and GA in Savanna and Nama-Karoo biomes; also in Botswana, Mozambique, Namibia, Swaziland and Zimbabwe. **General:** Indigenous specie found in India, Australia, Central, Western and South-eastern parts of Africa; Has been introduced to the USA. **Similar species:** *B. insculpta*, which has a conspicuous ring of white hairs around the nodes, a digitate inflorescence and blue-green leaves.



**Origin:** *Bothriochloa* = From the Greek words bothrion meaning little furrow or pit, and chloa meaning grass, referring to the distinctive discoloured groove in the joints and pedicels; *bladhii* = Named after Peter Johan Bladh (1746-1816) a plant collector with the Swedish East India Company and correspondent of Thunberg.



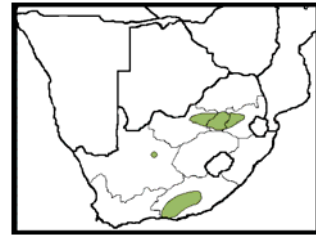
**Measurements**

Culm height: ± 1.20 m  
Leaf length: ± 450 mm  
Leaf width: ± 10 mm  
Inflorescence: 90-220mm  
Spikelet length: 4-6 mm  
Awn length: NA

*Calamagrostis epigejos* (L.) Roth var.  
*capensis* Stapf  
(P. ACEAE)

(E: reedgrass, saltpangrass; A: soutpangras)

Synonyms: —



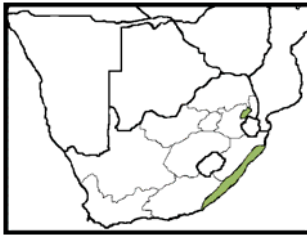
An erect, tufted, underground creeping, rather robust, perennial, grass. **Culm:** Plantaceous, unbranched above. **Ligule:** Unfringed membrane. **Leaves:** Leaf blades tapering to a long fine point, and rough to the touch. **Inflorescence:** Narrow light brown panicle. **Flowers:** Florets with conspicuous long, white callus hairs. **Altitude:** 1300-1900 m. **Habitat:** Vleis and marshes. **Distribution:** Found in EC, MP, GA, NW and NC. **General:** Indigenous and rare species in the Cape Mountains and Limpopo Province Mountains. No collection on the Eastern Cape Mountains since 1954. The typical variety occurs in temperate Europe and Asia and has smaller spikelets. Rare but not threatened.



**Origin:** *Calamus* = reed-like; *agrostis* = grass; *epigaeus* = growing near the ground; *capensis* = from the Cape

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***Coix lacryma-jobi* L.**  
(P ACEAE)

(E: Job's tears; A: Jobskrale, Jobskraaltjies, Jobstrane, kraalgras, traangras, tandkrale)

Synonyms: —

**Measurements**

Culm height: ± 1.30 m  
 Leaf length: 100-500 mm  
 Leaf width: 2-7 mm  
 Inflorescence: 10-40 mm  
 Spikelet length: 7-10 mm  
 Awn length: NA

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A smooth annual grass. **Culm:** Plant-like and branched above. **Ligule:** Unfringed membrane. **Leaves:** Flat, lanceolate leaf blades. **Inflorescence:** Panicle with a series of bracts. Whitish and beadlike. **Flowers:** Unisexual spikelets, awnless. **Altitude:** 40-1000 m. **Habitat:** Wet marshy areas along riverbanks or extending into the water, forming dense stands. Requires moving water, not stagnant. **General:** Temperate regions, almost cosmopolitan. Naturalised. Good riverbank stabiliser. The false fruits are used to make necklaces, grown as a cereal crop in some countries, roots are used medicinally and administered to people only and used in a magical sense.

**Origin:** *Coix* = From a Greek name used by Theophrastus for a palm plant; *lacryma-obi* = Job's tears.



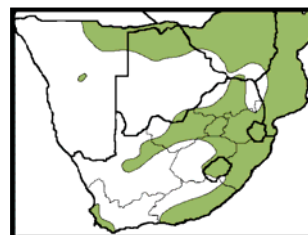


### Measurements

Culm height: 0.10-1.20 m  
Leaf length: ± 1000 mm  
Leaf width: 4-10 mm  
Inflorescence: 50-200 mm  
Spikelet length: 3-6 mm  
Spikelet hair length: 9-15 mm

## *Imperata cylindrica* (L.) Raeusch (P ACEAE)

(E: Silver spike, Cotton wool grass;  
A: Silweraargras, Beddinggras, Donsgras;  
SS: Mohlabalerumo, mohlurumo, qheme, thlorumo)



**Synonyms:** *I. cylindrica* (L.) Raeusch. var. *africana* (Andersson) C.E.Hubb.; *I. cylindrica* (L.) Raeusch. var. *ma or* (Nees) C.E.Hubb.



A water-loving, underground creeping, perennial grass. **Culms:** Unbranched. **Ligule:** Fringed membrane. **Leaves:** Hard, stiff, sharp tip and prominent mid-rib; leaf blades up to 1000 mm long, 2-12 mm wide; broad in middle, narrowed at tip and base; reddish in winter. **Inflorescence:** Dense, reddish to white, silky panicle. **Flowers:** Spikelets all alike, 3-6 mm long. **Seed:** Small oval seed between long silky hairs. **Altitude:** 4-2100 m. **Habitat:** In poorly drained, moist, non-saline soil in vleis, marshes, seasonally flooded areas and riverbanks. It is an important indicator of the transitional zone, between aquatic and terrestrial areas. **Distribution:** Found in WC, EC, KZN, FS, MP, LP, NW, GA and NC; also in Botswana, Lesotho, Namibia and Swaziland. **General:** Occurs in most tropical and subtropical parts of the world. Indigenous. Indication of the outer most limits of a wetland. Stabilizes eroded soils in tropical parts of the world. Used medicinally for both people and animals. **Similar species:** None.

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**Origin:** *Imperata* = named after Ferante Imperato (1550-1625), an Italian apothecary and author of *ell historia naturale*; *cylindrica* = Latin for cylindrical, referring to the inflorescence.



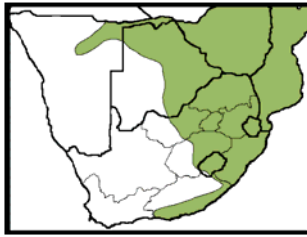
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***Leersia hexandra* Sw.**  
(P. ACEAE)

(E: Wild rice grass; A: Wilderysgras; SS: Mahlakamane a manyenyane, mohlakana)

Synonyms: —

**Measurements**

Culm height: 0.30-1.25 m  
Leaf length: 120-240 mm  
Leaf width: 3-5 mm  
Inflorescence: ± 80 mm  
Spikelet length: 5-6 mm  
Awn length: NA

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A water-loving, underground creeping, perennial grass. **Culms:** Erect with nodes covered in dens, short hair. **Ligule:** Unfringed membrane with unequal collar. **Leaves:** Coarse along margins and midrib. **Inflorescence:** Panicle. **Flowers:** Spikelets pinkish-green with stiff hair on the margin. **Altitude:** 100-2200 m. **Habitat:** Flood plains, marshes or vleis, boggy peatland areas and ditches. **Distribution:** Found in the EC, KZN, FS, MP, LP, NW and GA; also in Botswana, Lesotho, Mozambique, Namibia, Swaziland and Zimbabwe. **General:** Indigenous species found from Tropical Africa extending towards the FSA region. It is a reliable indicator of a high water table. It's seeds are eaten by ducks and teals. Regarded as a good grazing grass, especially in winter when the environment is drier and the grass is more accessible. The extended rhizome system is important in protecting wet places against flooding. Climax grass, moderately palatable when in water, otherwise unpalatable and may cause prussic acid poisoning in stock if grazed when wilting, sometimes resulting in death. It is used as fodder and sometimes considered to be a weed in irrigation ditches but not a major problem in southern Africa. For medicinal purposes it is administered to people only.



**Origin:** *Leersia* = Referring to the German botanist J.D. Leers; *hexandra* = Latin for six stamens



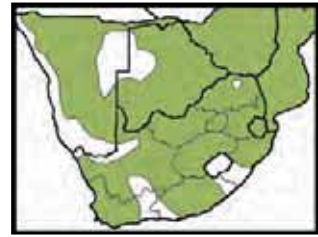
### Measurements

Culm height: 0.30-1.50 m  
Leaf length: 250-550 mm  
Leaf width: 3-5 mm  
Inflorescence: 200-350 mm  
Spikelet length: 6-14 mm  
Awn length: NA

## *Leptochloa fusca* (L.) Kunth (P. ACEAE)

(E: Swamp grass; A: Kuilgras)

**Synonyms:** *iplachne fusca* (L.) P.Beauv. ex Roem. & Schult.; *iplachne malabarica* (L.) Merr. in sense of Adamson

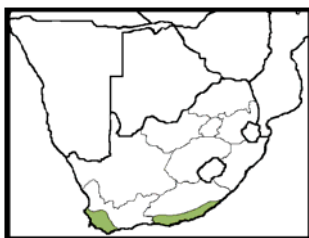


Surface creeping, tufted, perennial grass. **Culms:** Light green and round. **Ligule:** Tongue-shaped membrane. **Leaves:** Blades 8-66 cm long; 2-5 mm wide; tough, with greyish-green bloom; central nerve broad and white. **Inflorescence:** Multi-flowered panicle. **Flowers:** Spikelets narrow-ellipsoid to ellipsoid; lemmas narrowly oblong, rounded on the back, 3-nerved; the tips 2-toothed with between them a sharp point. **Altitude:** 2-2000 m. **Habitat:** Found in fresh and brackish water, salt marshes, irrigation canals, around vleis and along rivers. **Distribution:** Found in WC, EC, KZN, FS, MP, LP, NW, GA and NC; also in Botswana, Lesotho, Namibia and Swaziland. **General:** Tropical Old World, Australia, southern Africa extending towards FSA region. Not confined to wetlands. Good indicator of brackish conditions. **Similar species:** *L. cuspidata*, which is smaller with shorter leaf blades, glumes and lemmas.

**Origin:** *Lepto* = From the Greek word leptos meaning slender; *chloa* = Greek for grass; *fusca* = brown or dusky.

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***Merxmuellera cincta*** (Nees) Conert

subsp. ***cincta***  
(P. ACEAE)

**Measurements**

Culm height: ± 2.5 m  
Leaf length: 1000 mm  
Leaf width: 5-15 mm  
Inflorescence: 200-400mm  
Spikelet length: ± 14 mm  
Awn length: 5-14 mm

**Synonyms:** *anthonia cincta* Nees in part

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Tall, robust, reedlike, densely tufted, perennial grass. **Culms:** Base smooth, unbranched above. **Ligule:** Fringe of hairs. **Leaves:** Linear, wide, rolled or strongly keeled; densely hairy on the upper surface above the conspicuous ligule. **Inflorescence:** Dense, contracted panicle; silvery or cream-coloured. **Flowers:** Spikelets to 14 mm long; glumes 1-nerved; lemma backs with more than 3 distinct tufts of long whitish hairs; central awn 5-14 mm long. **Seed:** **Altitude:** 25-400 m. **Habitat:** Moist areas in seeps and along stream banks on the south facing mountain slopes. **Distribution:** Found in the WC and EC in the Fynbos biome. **General:** Endemic, vulnerable species from the Cape Flora Region. **Similar species:** *Calamagrostis epigeos*, which have a membranous ligule and a different spikelet structure.

**Origin:** *Merxmuellera* = Referring to the German botanist H. Merxmüller; *cincta* = girdled.



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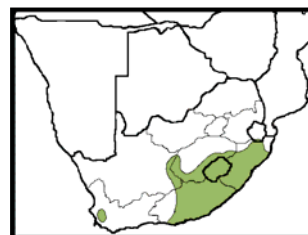


### Measurements

Culm height: 1.0-2.4 m  
Leaf length: ± 900 mm  
Leaf width: ± 16 mm  
Inflorescence: 150-450 mm  
Spikelet length: 4-6 mm  
Awn length: 2-7 mm

## *Miscanthus capensis* (Nees) Andersson (P ACEAE)

(E: Dabagrass, East-coast broomgrass; A: Ruigtegras, Ooskus-ruigtegras; SS: Lesene, Mothala)



**Synonyms:** *Miscanthidium capensis* Nees var.

*capensis*; *Miscanthidium capensis* Nees var. *villosa* Stapf; *Miscanthidium erectum* Stent; *Miscanthidium sorghum* Stent



A robust, tufted, underground creeping, perennial grass. **Culms:** Erect, unbranched above. **Ligule:** Hairy. **Leaves:** Large coarse Leaves, blades flat, sheath fibrous when old. **Inflorescence:** Large narrow panicle. **Flowers:** **Seed:** **Altitude:** 50-2500 m. **Habitat:** Moist, non-saline wet places, riverbanks, floodplains, drainage lines, seepage areas or damp forest margins. **Distribution:** Found in the Fynbos, Savanna and Grassland biomes in WC, EC, KZN, FS and NC; also in Lesotho and Swaziland. **General:** Endemic to southern Africa. Used as thatching grass in KwaZulu-Natal. Has a potential to become an ornamental grass in large gardens. Grains often served as famine food during droughts. Medicinal uses, administered to people only. **Similar species:** None.



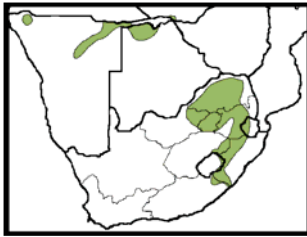
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**Origin:** *Miscanthus* = Greek for stalked flowers (spikelets); *capensis* = Relating to the Cape





***Miscanthus junceus*** (Stapf) Pilg.  
(P ACEAE)

(A: Besemgras, ruigtegras)

**Synonyms:** *Miscanthidium unceum* (Stapf) Stapf;  
*Miscanthidium teretifolium* (Stapf) Stapf

**Measurements**

Culm height: 1.0-2.5 m  
Leaf length: 500-1000 mm  
Leaf width: ± 3 mm  
Inflorescence: 150-450 mm  
Spikelet length: 4-5 mm  
Awn length: 4-7 mm

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Tall, tufted, perennial grass. **Culms:** Erect and unbranched above. **Ligule:** Unfringed membrane. **Leaves:** Linear, round, solid and slender; sheaths are hairless. **Inflorescence:** Contracted hairy, light brown panicle. **Flowers:** Spikelets hairy with long awn. **Altitude:** 75-1800 m. **Habitat:** On riverbanks, floodplains and in vleis, often in standing water, mostly in wet coarse, sandy soil. Common grass found in permanent water in the Okavango delta where it forms dense single-species stands. **Distribution:** Found in Savanna and Grassland biomes in EC, KZN, FS, MP, LP, NW and GA; also in Botswana, Lesotho, Namibia and Swaziland. **General:** Endemic to southern Africa. It is used to make brooms and plays an important role in purifying water and stabilising riverbanks. **Similar species:** None.

**Origin:** *Miscanthus* = Greek for stalked flowers (spikelets); *unceus* = Like *Juncus* (rush)



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### Measurements

Culm height: ± 1.0 m  
Leaf length: ± 150 mm  
Leaf width: mm  
Inflorescence: 60-300 mm  
Spikelet length: 2-3 mm  
Awn length: NA

## *Panicum coloratum* L. var. *coloratum* (P. ACEAE)

(E: White buffalo grass; A: Witbuffelsgras; G: Buntet  
Hirsegras)



**Synonyms:** *P. coloratum* L. var. *makarikariense*  
Gooss.

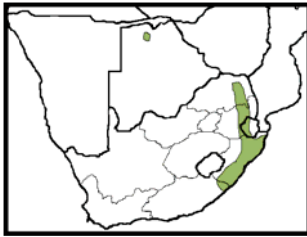


A robust, tufted, perennial grass. **Culms:** Nodes usually purple and knee-like bend at the base. **Ligule:** Hairy. **Nodes:** Often flushed purple. **Leaves:** Generally hairy. **Inflorescence:** Open panicle with single lower branch. **Flowers:** Spikelets are widespread on rays; green often tinged with purple. **Altitude:** 4-2300 m. **Habitat:** Sandy or clay soils in riverbeds, drainage courses, around pans or in depressions growing with other hygrophilous grasses. **Distribution:** Widely distributed in South Africa, except in WC. **General:** Good grazing grass from tropical and subtropical Africa, extending southwards to FSA region. Usually cultivated pasture. Can occasionally cause outbreaks of skin photosensitivity (dikoor) in sheep when grazing on wilted *P. coloratum*. **Similar species:** *P. maximum*, which has numerous branches arranged in a whorl at the base of the inflorescence. *P. stapfianum* which is very similar to this species.

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**Origin:** *Panicum* = Latin for belonging to bread (grains used for baking); *coloratum* = coloured.





***Panicum hymeniophilum*** Nees  
(P. ACEAE)

**Synonyms:** *P. filiculme* Schinz; *P. hymeniophilum* Nees var. *glandulosum* Nees

Measurements
Culm height: 0.14-2.00 m
Leaf length: 12-70 mm
Leaf width: 1.2-10.0 mm
Inflorescence: ± 70 mm
Spikelet length: 2-3 mm
Awn length: NA

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Scrambler, hydrophytic, annual grass; **Culms:** Scrambling. **Ligule:** Minute. **Leaves:** With club-shaped hairs mixed with fine, short, straight hairs; the blades are smooth or finely hairy. **Inflorescence:** Sparsely branched panicle with barely club-like hairs usually present. **Flowers:** Purple-tinged spikelets. **Altitude:** 5-1600 m. **Habitat:** Seasonally flooded area, along the edge of rivers, perennial swamps, marshes and vleis. **Distribution:** Locally common in Savanna, Grassland and Forest biomes in EC, KZN, MP and LP; also in Botswana and Swaziland. **General:** Madagascar, Tropical Africa, extending southwards to FSA region. Indigenous. **Similar species:** None.

**Origin:** *Panicum* = Latin for belonging to bread (grains used for baking); *hymeniophilum* = refers to the violet-blue lipped membranous spikelets.





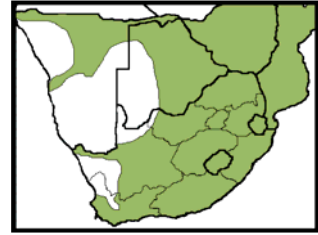
### Measurements

Culm height: 0.6-4.0 m  
Leaf length: 150-450 mm  
Leaf width: 10-40 mm  
Inflorescence: 120-400 mm  
Spikelet length: 10-18 mm  
Awn length: NA

## *Phragmites australis* (Cav.) Steud (P ACEAE)

(**E**: Common reed; **A**: Fluitjiesriet, spens-van-die-Karoo; **SS**: Lehlaka, lehlaka la noka, qhoboi).

**Synonyms:** *P. communis* Trin.



Perennial, underground-creeping, robust, grass-like plant. **Culms:** Unbranched, sometimes purple at base. **Ligule:** Long, tapering, with fringing hairs equal to or longer than membrane. **Leaves:** Leaf blade open with long pointed, bendy tip. **Inflorescence:** Compact panicle. **Flowers:** Silky awned. **Altitude:** 2-2200 m. **Habitat:** Along the edge of rivers, shallow water, margins of pools, swamps, will grow in stagnant water. Often grows in association with *Typha capensis*. **Distribution:** Widespread in WC, EC, KZN, FS, MP, LP, NW, GA and NC in Fynbos, Savanna, Grassland, Nama-Karoo and Desert biomes; also in Botswana, Lesotho, Namibia, and Swaziland. **General:** Tropical to warm, northern and southern hemisphere, probably the most widely distributed plant in the world. Ecologically very important in wetlands, it stabilises river banks, prevents soil erosion during flooding, filters water, offer shelter and nesting material for birds and other animals. It is also used as a thatching grass, mats and basketry. It has been used to make paper and is used in the chemical industry. For medicinal uses it is administered to people only and used in a magical sense. **Similar species:** *Arundo donax* and *P. mauritanus*.

**Origin:** *Phragmites* = Greek for resembling a hedge (mature plants); *australis* = From the southern hemisphere.



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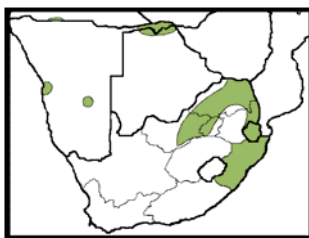
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## *Phragmites mauritianus* Kunth

(P ACEAE)

(A: Steekriet)

Synonyms: —

### Measurements

Culm height: ± 5.0 m  
 Leaf length: ± 300 mm  
 Leaf width: ± 30 mm  
 Inflorescence: 200-400 mm  
 Spikelet length: 7-15 mm  
 Awn length: NA

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A perennial grass, emergent hydrophyte. **Culms:** Robust, tilting from lower nodes. **Ligule:** Hairy. **Leaves:** Blades rigid and spiny. **Inflorescence:** Brownish panicle. **Flowers:** White callus hairs are shorter and less conspicuous. **Altitude:** 6-1600 m. **Habitat:** Along the edge of rivers, shallow water, margins of pools, swamps, and dams, not in stagnant water. Typical floodplain plant, grows in slightly drier conditions than *P. australis*. **General:** Madagascar, Tropical Africa, Sudan, extending southwards to FSA region. Indigenous. Useful indicator of deep seepage areas. If replacing *P. australis* then it is an indication that the water level is receding. Ecologically very important in wetlands, it stabilises river banks, prevents soil erosion during flooding, filters water, offers shelter and nesting material for birds and other animals. Medicinal uses, administered to people only. **Similar species:** *Arundo donax* and *P. australis*.

**Origin:** *Phragmites* = Greek for resembling a hedge (mature plants); *mauritianus* = From Mauritius, from the Mascareignes islands, (which includes Mauritius, Reunion and Rodrigues).



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### Measurements

Culm height: 0.02-0.60 m  
Leaf length: 20-120 mm  
Leaf width: 0.5-4.0 mm  
Inflorescence: 50-190 mm  
Spikelet length: 3-6 mm  
Glume awn length:  $\pm$  7 mm

## *Polypogon monspeliensis* (L.) Desf. (POACEAE)

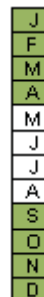
(E: Beard grass, Rabbit's foot; A: Brakbaardgras, Brakgras)

Synonyms: —



A loosely tufted, annual grass that varies considerable in size. **Culms:** Erect or decumbent. **Ligule:** A conspicuous white membrane. **Leaves:** Blade has a rough margin and ends in sharp point. **Inflorescence:** Dense silver-green panicle. **Spikelets:** Exceptionally small, with 2 short, thin awns on the lemma and long awns on the glumes. **Altitude:** 5-1700 m. **Habitat:** Ruderal, grows in damp, often brackish soil, alluvial, silty floodplains, seepage areas, edge of reedbeds, moist soil near sugar cane fields or disturbed areas. **General:** Originates from the Mediterranean regions, but is now widely naturalised, except in Central Africa and central and northern parts of Europe. Naturalised. Unpalatable. It grows in a wide variety of climatic conditions. **Similar species:** *P. strictus*, which have 3 long awns on the lemma.

**Origin:** *Polypogon* With many beards; *monspeliensis* = from Montpellier, France



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***Polypogon viridis*** (Gouan) Breistr.  
(P ACEAE)

(E: Bent grass; water bent grass)

**Synonyms:** *Agrostis semiverticillata* (Forssk.) C.Chr.; *P. semiverticillatus* (Forssk.) Hyl.

**Measurements**

Culm height: 0.15-0.60 m  
Leaf length: ± 150 mm  
Leaf width: ± 7 mm  
Inflorescence: ± 200 mm  
Glume awn length: 10-25 mm  
Lemma awn length: 5-10 mm

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A small to medium, annual grass. **Culms:** Herbaceous. **Ligule:** Unfringed membrane. **Leaves:** Linear to lanceolate. **Inflorescence:** Open panicle with branches ascending. **Flowers:** Lemmas awnless. **Altitude:** 5-1800 m. **Habitat:** Wet places, especially riverbanks. **Distribution:** Found in Fynbos, Savanna, Gerassland, Nama-Karoo and Desert biomes in WC, EC, KZN, FS, MP, GA, NW and NC. **General:** Naturalised species which were introduced from southern Europe. **Similar species:** *P. monspeliensis* and *P. strictus*.

**Origin:** *Polypogon* With many beards; *viridis* = green.



AL



### Measurements

Culm height: 0.7-1.5 m  
Leaf length: 100-500 mm  
Leaf width: 3-10mm  
Inflorescence: 150-500 mm  
Spikelet length: 1.7-2.0 mm  
Awn length: NA

## *Sporobolus pyramidalis* P.Beauv. (P ACEAE)

(E: Cat's tail dropseed; A: Katstertfynsaadgras, smalpluimfynsaadgras, vleigras, taaipol)

Synonyms: —

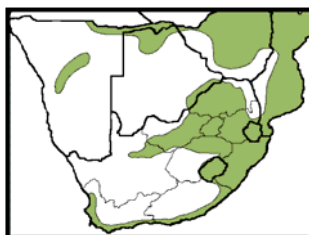


A tufted, perennial grass with a strong rooting system. **Culms:** Erect and unbranched. **Ligule:** **Leaves:** Lower leaf sheath soft, blade hairless, ending in a long loose rolled tip. **Inflorescence:** Panicle. **Flower:** Spikelets are small, and tightly packed. **Altitude:** 10-2000 m. **Habitat:** In vleis, watercourses, periodically flooded areas or near dams on sandy soil or heavy clay. **Distribution:** Commonly found in the Savanna and Grassland biomes in EC, KZN, FS, MP, LP, NW and GA; also found in Botswana, Mozambique, Namibia, and Swaziland. **General:** Indigenous species which occurs in Yemen, Mauritius, Madagascar and Tropical Africa and extends southwards to the FSA region. It is a good indicator of wetness in the soil but not necessary visible water. It is also an indicator of trampled soil and overgrazed veld and is important in preventing soil erosion. The plants are used for medicinal purposes, and it is administered to people only. It is also used in a magical sense. **Similar species:** *S. africanus*, which is very similar and *Eragrostis plana*, which have flattened and overlapping basal leaf sheaths.

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**Origin:** *Sporobolus* = Greek for seed throw (mature grains); *pyramidalis* = pyramid-shaped.





***Andropogon eucomus*** Nees  
(P ACEAE)

(E: Snowflake grass, old man s beard, silver thread grass; A: Kapokgras, kleinwitbaardgras; SS: Mohlaala, mohlala)

**Measurements**

Culm height: ± 1.00 m  
Leaf length: 40-200 mm  
Leaf width: 4 mm  
Inflorescence: ± 10 mm  
Spikelet length: 2-3 mm  
Awn length: 4-6 mm

**Synonyms:** —

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Tall, densely tufted, perennial grass. **Leaves:** Leaf blades linear. **Inflorescence:** Plumose, of 2-6 flowering branches. **Spikelets:** Sessile, accompanied by an empty, hairy pedicel, 0.7-1.2 mm wide. Racemes 2-5 per spathe, with white silky hairs twice as long as the spikelets, lower glume of sessile spikelets deeply and narrowly grooved. **Altitude:** 3-1900 m. **Habitat:** In open grassland vleis and wet places. **Distribution:** WC, EC, KZN, MP, FS, LP, NW, GA and NC in Fynbos, Savanna and grassland biomes; also Botswana, Lesotho, Namibia and Swaziland. **General:** Madagascar and Tropical Africa, extending southwards to FSA region. Common. A very important grass for stabilizing disturbed moist soil and a good indicator of poorly drained soil. **Similar species:** *A. huiliensis*, which is much taller (to 1.8 m) with less conspicuous spikelets.

**Origin:** *Andropogon* = Greek for male beard (hairy joints); *eucomis* = Greek for beautiful tufts of hair.



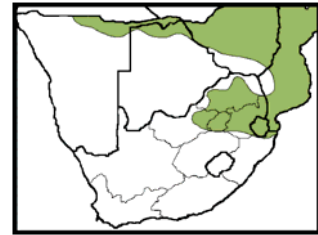
### Measurements

Culm height: 0.90-1.90 m  
Leaf length: 80-400 mm  
Leaf width: 2-5 mm  
Inflorescence: 30-100 mm  
Spikelet length: 2-3 mm  
Awn length: 4-6 mm

## *Andropogon huillensis* Rendle (P. ACEAE)

(E: Large silver andropogon; A: Grootwitbaardgras, rietgras, grootwitbaardandropogon)

Synonyms: —

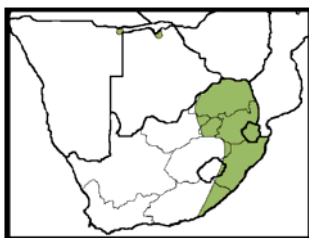


Tufted, perennial grass. **Culm:** Erect. **Ligule:** Hairy. **Leaves:** Leaf blade has a prominent white midrib. **Inflorescence:** Plumose with 5-7 flowering branches per stem. **Spikelets:** Sessile, 4.0-5.0 mm long. 0.5-0.8 mm wide. Pedicellate sometimes slightly longer, usually reduced and flattened. Racemes 4-10 per spathe, with white silky hairs as long as the sessile spikelet, lower glume of sessile spikelet deeply and broadly grooved. **Altitude:** 30-2100 m. **Habitat:** In wet places, vleis and along the edge of rivers. **Distribution:** MP, LP, GA and NW in Savanna and Grassland biomes; also in Botswana. **General:** Occurs in southern tropical Africa. Has an average to low grazing value and a good indicator of wet sandy soil. **Similar species:** *A. eucomus*, which is a much smaller plant (to 0.5 m) and more widespread.

**Origin:** *Andropogon* = Greek for male beard (hairy joints); *huillensis* = name means of Huilla', which is a place in Angola.

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***Ischaemum fasciculatum*** Brongn.  
(P ACEAE)

(A: Rooi vleigras)

**Synonyms:** *I. arcuatum* (Nees) Stapf

**Measurements**

Culm height: 0.30-1.20 m  
Leaf length: 50-250 mm  
Leaf width: 5-16 mm  
Inflorescence: 50-130 mm  
Spikelet length: 5-8 mm  
Awn length: 5-10 mm

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A perennial, water-loving grass. **Culms:** Reddish. **Ligule:** Unfringed membrane. **Leaves:** Green becoming reddish-brown, tips narrowing to a sharp point. **Inflorescence:** Semi-digitate, spike-like main branches. **Flowers:** Sessile spikelets; lower glume flat or convex, keels usually winged on upper half. **Altitude:** 2-2000 m. **Habitat:** In heavy, damp clay soils along edge or in the water of riverbanks, vleis and marshes; often forming dense stands. **Distribution:** Found in EC, KZN, FS, MP, LP NW and GA; also in Botswana and Namibia. **General:** Indigenous species that are found from South-east Asia, Tropical Africa and extending southwards to the FSA region. Well utilized by hippos and used as thatching grass in Mozambique.

**Origin:** *Ischaemum* = From the Greek word ischaimon (styptic), referring to the plant's ability to stop bleeding; *fasciculatus* = clustered, in bundles.





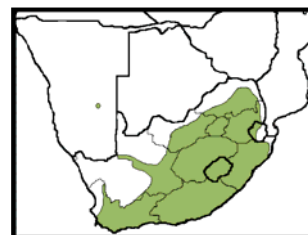
### Measurements

Culm height: 0.1-0.6 m  
Leaf length: 20-220 mm  
Leaf width: 3-8 mm  
Racemes: 20-70 mm  
Spikelet length: 2.5-3.5 mm  
Awn length: NA

## *Paspalum distichum* L.

(P ACEAE)

(E: Paspalum, Buffalo quick paspalum, Couch paspalum; A: buffelskweekpaspalum, kweekpaspalum, bankrotkweek, bulgras, knopgras, rooikweek, tweevingergras)



**Synonyms:** *P. paspalodes* (Michx.) Scribn.



Water-loving, mat-forming, perennial grass. **Culms:** Creeping. **Ligule:** **Leaves:** Linear. **Inflorescence:** Two racemes, with spikelets arranged in two rows; racemes curls horizontally or downwards with maturity. **Flowers:** Spikelets smooth, lanceolate with sharp point; lower glume usually a small triangular scale. **Altitude:** 1-1815 m. **Habitat:** In or near salt or freshwater water-bearing places, on river banks, vleis or along the edge of pans in muddy soil, sand or black turf. **Distribution: General:** Tropical to warm areas in northern and southern Hemisphere, tropical Africa extending to FSA region. Grass is a known weed which is difficult to eradicate. Medicinal uses, administered to people only. Grass can support sheep during the winter months. **Similar species:** None.

**Origin:** *Paspalum* = Greek for a kind of millet; *distichium* = Latin for arranged in two opposite rows (spikelets).



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***Paspalum vaginatum*** Sw.  
(P. ACEAE)

(E: Sea shore paspalum, swamp coach;  
A: brakpaspalum)

Synonyms: —

**Measurements**

Culm height: 0.3-0.6 m  
Leaf length: 40-90 mm  
Leaf width: 2-4 mm  
Racemes: ± 40 mm  
Spikelet length: 3.0-4.5 mm  
Awn length: NA

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Water-loving, mat-forming perennial grass. **Culms:** Short internodes and branching at most nodes. **Ligule:** Unfringed membrane. **Leaves:** Leaf blades linear, rolled. **Inflorescence:** Digitate with 2 racemes. **Flowers:** Spikelets arranged in two rows, smooth, lanceolate with sharp tips. **Altitude:** 1-1700 m. **Habitat:** Widespread, always near water, grows mostly in saline water at the coast, in or near water of rivers and estuaries, swamps, marshy areas. Inland it is found at the water's edge on sandy soils. It has a high salt tolerance (18-38 ppm). **Distribution:** Found in WC, EC, KZN, FS and GA. **General:** Indigenous species which are found worldwide in tropics and subtropics, extending southwards to the FSA region. It can become a weed in irrigation ditches and rice fields. It is utilised as a pasture grass on brak and structureless soils and in erosion control, on golf course and for medicinal uses, administered to people. **Similar species:** None.

**Origin:** *Paspalum* = Greek for a kind of millet; *vaginatum* = With a sheath.



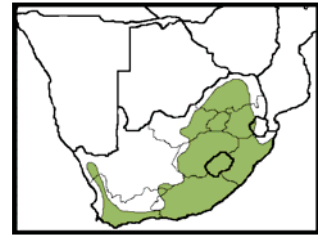
**Measurements**

Culm height: 0.30-1.3 m  
Leaf length: 150-500 mm  
Leaf width: ± 6 mm  
Inflorescence: 30-150 mm  
Spikelet length: 5-7 mm  
Awn length: 10-15 mm

***Andropogon appendiculatus*** Nees  
(P ACEAE)

(E: Vlei bluestem; A: Blougras)

**Synonyms:**

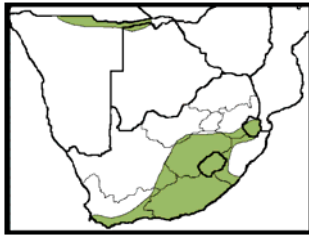


A densely tufted, perennial grass. **Culms:** Erect with more than one flower stalk. **Ligule:** Hairy. **Leaves:** Basal sheaths keeled, flattened, yellow and becoming shining brown. **Inflorescence:** 1-2 flowering branches with 4-20 racemes. **Spikelets:** Sessile and on flowerstalks; dark-purple, with short hairs. **Altitude:** 5-30300 m. **Habitat:** Common amongst water-loving plants in wet, moist or shady places. **Distribution:** Found in Fynbos, Savanna, and Grassland. **Similar species:** *igitaria* species which lack awns; *A. huillensis*, which is more branched and has silver-white inflorescences.

**Origin:** *Agrostis* = Greek for a kind of grass; *appendiculatus* = having small appendages.

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***Echinochloa crus-galli*** (L.) P.Beauv.  
(P. ACEAE)

(E: Barnyard grass, Barnyard millet; A: Hanepootmanna, Tuinmanna, Blousaadgras)

**Synonyms:** *E. subverticillata* Pilg.

**Measurements**

Culm height: ± 1.50 m  
Leaf length: 70-350 mm  
Leaf width: 4-20 mm  
Inflorescence: 8-30 mm  
Spikelet length: 3.0-3.5 mm  
Awn length: NA

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Surface creeping and tufted, annual grass. **Culms:** Plantaceous. **Ligule:** Absent. **Leaves:** Flat, broad leaf blades. **Inflorescence:** Elongate, untidy, unbranched inflorescence; with 20-several rowed spikelets on axils. **Flowers:** Spikelets hairy but with no awns. **Altitude:** 9-2300 m. **Habitat:** Wet marshy areas or wet places of cultivation. **Distribution:** Occur in WC, EC, KZN, FS, and MP in Fynbos, Savanna, Grassland and Nama-Karoo biomes; also in Botswana, Lesotho, Namibia and Swaziland. **General:** World-wide temperate and subtropical regions of America, Asia and Africa, extending southwards to FSA region. Indigenous. In the past grains have been served as famine food during droughts. Medicinal uses, administered to people only. **Similar species:** A variable species, can be confused with *E. colona*, which has neat 4-rowed flower spikes, and *E. crus-pavonis*, which has a larger inflorescence and flower spikes with many secondary branches.



**Origin:** *Echinochloa* = Latin for hedgehog grass (Spikelets surrounded by stiff hairs); *crus-galli* = A cockerel's spur.



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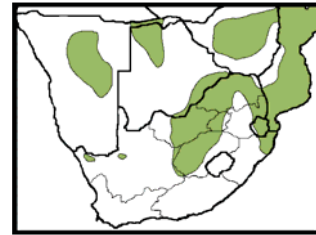
### Measurements

Culm height: 0.40-0.90 m  
Leaf length: 180-220 mm  
Leaf width: 2-8 mm  
Inflorescence: 60-170 mm  
Spikelet length: 2.5-3.5 mm  
Awn length: NA

## *Echinochloa holubii* (Stapf) Stapf (P ACEAE)

(E: Kalahari water grass; A: Kalahari-watergras)

Synonyms: —

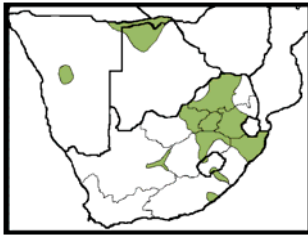


Underground-creeping and tufted, perennial grass. **Culms:** Hairless and plantaceous. **Ligule:** Fringe of hairs that may be absent in the upper leaves. **Leaves:** Leaf blades linear. **Inflorescence:** Consists of short, thick, purple to dark brown racemes that are borne against the central axis. **Flowers:** Spikelets awnless; 15-40 mm long; tip acute to acuminate, up to 3 mm long. **Altitude:** 4-1600 m. **Wetland type:** Riverine/palustrine/lacustrine. **Habitat:** Swampy areas, floodplains, wet mud at edge of pans and vleis. **Distribution:** Found in KZN, FS, MP, LP, NW and NC in Savanna, Grassland, Nama-Karoo and Succulent Karoo biomes; also in Botswana, Namibia and Swaziland. **General:** Indigenous species which occurs only in southern Africa, Zimbabwe, and the FSA region.

**Origin:** *Echinochloa* = Latin for hedgehog grass (Spikelets surrounded by stiff hairs); *holubii* = Named after the 19<sup>th</sup> century European naturalist and explorer Emil Holub.

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***Echinochloa jubata*** Stapf  
(P ACEAE)

Synonyms: —

**Measurements**

Culm height: 0.5-2.0 m  
 Leaf length: 100-250 mm  
 Leaf width: 3-15 mm  
 Inflorescence: 80-200 mm  
 Spikelet length: 3.0-4.0 mm  
 Awn length: 3-25 mm

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Underground- and surface-creeping, perennial, grass. **Culms:** Plantaceous. **Ligule:** Fringe of hairs that may be absent from upper leaves. **Leaves:** Often floating-leaved. **Inflorescence:** Dense **Flowers:** Spikelets narrowly elliptic with long awns on lower part of spikelet. **Altitude:** 600-1800 m. **Wetland type:** Riverine/palustrine/lacustrine. **Habitat:** In or floating on open waters of lakes or pools, along the edge of rivers and permanent or seasonal pans. **Distribution:** Locally common in EC, KZN, MP, LP, NW, GA and NC in Savanna and Grassland biomes; also in Botswana, Lesotho and Namibia. **General:** Tropical Africa, extending southwards to FSA region. **Indigenous.** **Similar species:** *E. stagnina*.

**Origin:** *Echinochloa* = Latin for hedgehog grass (Spikelets surrounded by stiff hairs); *ubatus* = with a mane or crest.



#### Measurements

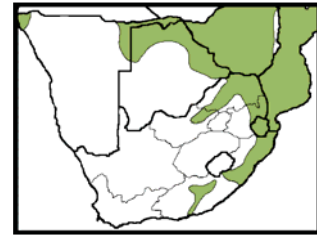
Culm height: 1.0-4.0 m  
Leaf length: 80-600 mm  
Leaf width: 5-20 mm  
Inflorescence: 150-400 mm  
Spikelet length: 1.0-1.8 mm  
Awn length: NA

## *Echinochloa pyramidalis* (Lam.)

Hitchc. & Chase  
(P. ACEAE)

(E: Limpopo grass, antelope grass)

Synonyms: —

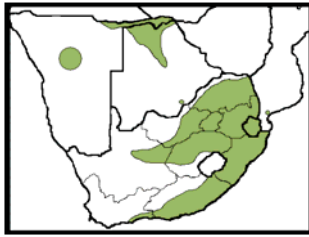


Underground and surface creeping, tufted, perennial grass that may be floating. **Culms:** Robust and solid. **Ligule:** Fringe of hairs that may be absent from upper leaves. **Leaves:** Leaf blades; sometimes with stiff hairs, like the thorns of a prickly pear, on the leaf sheath. **Inflorescence:** Simple or compound, 150-400 mm long. **Flowers:** Lower part of spikelet awnless with tapering tip. **Altitude:** 1-1500 m. **Habitat:** In water or on edge of rivers, seasonal pools, marshes, vleis, swamps, permanent or seasonal pans where it can form extensive stands, often forming rafting mats, enters the upper reaches of estuaries, but cannot tolerate salt water. **Distribution:** Locally common in WC, EC, KZN, MP, LP and GA in Fynbos, Savanna and Grassland biomes. **General:** Important grazing grass in Africa that usually grow in black clay soil; Madagascar, tropical Africa extending to FSA region. Indigenous. Medicinal uses, administered to people only. **Similar species:** *E. holubi*, which is a much smaller grass.

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**Origin:** *Echinochloa* = Latin for hedgehog grass (Spikelets surrounded by stiff hairs); *pyramidalis* = pyramid-shaped.





## *Paspalum scrobiculatum*

(P. ACEAE)

(**E:** creeping paspalum, ditchgrass, koda millet, native millet, scrobis, water grass, wild paspalum; **A:** dronkgras, slootgras; : isiamuyisane)

**Synonyms:** *P. auriculatum* J. Presl. & C. Presl ; *P. commersonii* Lam. ; *P. orbiculare* G. Forst. ; *P. polystachyum* R. Br.

### Measurements

Culm height: 0.1-0.7 m  
 Leaf length: 150-380 mm  
 Leaf width: 6-10 mm  
 Racemes: 30-80 mm  
 Spikelet length: 2.0-2.5 mm  
 Awn length: NA

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Perennial grass. **Culms:** Erect to growing horizontal before growing upwards. **Ligule:** Hairy. **Leaves:** Light-green leaves with shades of purple; leaf sheaths are flat. **Inflorescence:** 1- 5 racemes. **Flowers:** Spikelets smooth, round, hairless, and arranged in two overlapping rows, along a thickened axis. **Altitude:** 8-2000 m. **Habitat:** In moist, semi-swampy areas or well-drained soils along the edge of rivers, margins or drying edges of pools, open grasslands; also often in disturbed places and abandoned lands. **Distribution:** Found in the WC, EC, KZN, FS, MP, LP, NW, GA and NC; also in Botswana, Namibia and Swaziland. **General:** Indigenous species native to Tropical Old World and Tropical Africa, and extending southwards to the FSA region. Medicinal uses are for administering to people only. **Similar species:** *P. notatum*, which seldom occurs in natural veld. The species is also sometimes confused with *Brachiaria* and *rochloa* species, but these species usually have hairy spikelets.



**Origin:** *Paspalum* = Greek for a kind of millet; *scrobis* = a ditch; *culatum* = short or small.



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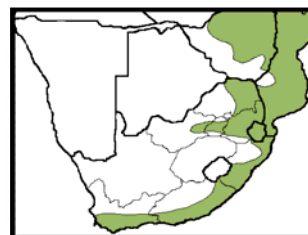


### Measurements

Culm height: 0.1-2.5 m  
Leaf length: 250-600 mm  
Leaf width: 4-15 mm  
Inflorescence: 120-300mm  
Spikelet length: 1.6-2.8 mm  
Awn length: NA

## *Paspalum urvillei* Steud. (P ACEAE)

(E: Tall paspalum, giant paspalum, Casey paspalum, upright paspalum; A: Langbeen paspalum, caseygras, langbeenwatergras)



Synonyms: —



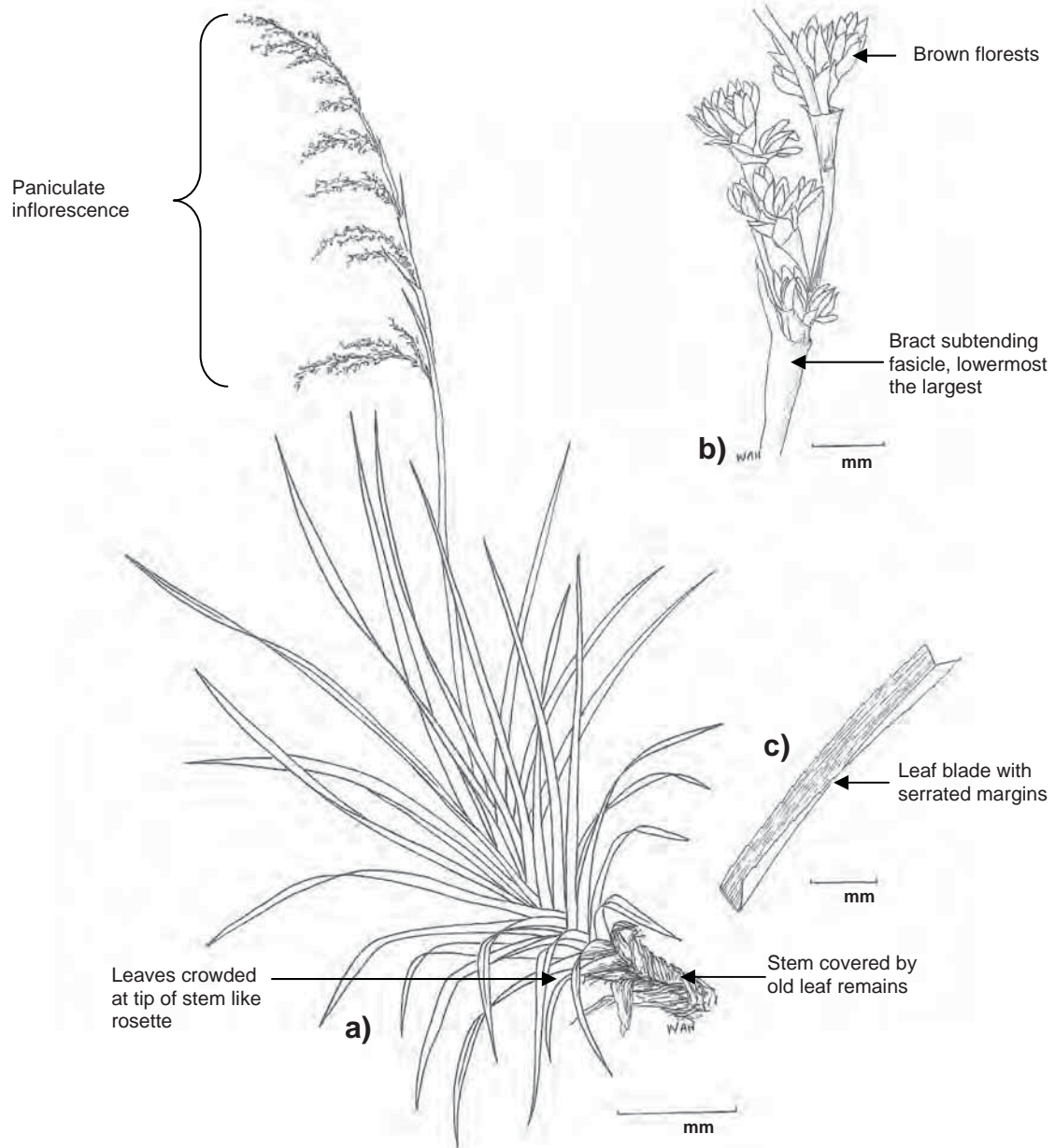
Underground-creeping and densely, tufted, leafy, perennial grass. **Culms:** Erect. **Ligule:** Hairy and membranous, distinct form. **Leaves:** Basal sheaths densely hairy; rough margin. **Inflorescence:** Loose, hanging, 10-20 racemes. **Flowers:** Spikelets arranged in four rows; light green to purplish; fringed with white hairs; woolly. **Altitude:** 10-2000 m. **Wetland type:** Riverine, palustrine and lacustrine. **Habitat:** Damp areas, vleis, marshes, riverbanks, road reserves or any other places where water collects. **Distribution:** Found in Fynbos, Savanna and Grassland biomes in WC, EC, KZN, MP, LP, NW and GP; also in Mozambique, Swaziland and Zimbabwe. **General:** Naturalized species which originates from Argentina and Uruguay. Today it occurs in virtually all tropical parts of the world. Good indicator of wetness. Utilised as a cultivated pasture in many countries and grows particularly well in vleis. Is a serious weed in forestry and pineapple fields. Seeds are eaten by wetland birds, especially Red Bishops. **Similar species:** *P. dilatatum*, which has larger spikelets and fewer racemes.

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**Origin:** *Paspalum* = Greek for a kind of millet; *urvillei* = Named after J.S.C.D. d'Urville, a French Naval Officer (1790-1861).







Line illustration of *Prionium serratum* showing the characteristics of the plants. a) Plant showing characteristic stem, leaves and inflorescence, b) close-up of inflorescence, and c) the characteristic folded leaves with serrated margins.

# ***PR*      *ACEAE*** **(PALMIET)**

Within the Family Prioniaceae, there is only 1 species, which occurs in South Africa.

## **Distribution**

The plants are endemic within the WC, EC and KZN.

## **Descriptive characteristics**

The plants are quite unique and used to be classed within the Juncaceae. They are found in permanent water bodies and especially along rivers, where they form large tussocks along the riparian zone and spreading into the water. The net-like stems and serrated leaves are well known characteristics of these plants.

## **Habitat**

Form dense stands along the edge of permanent rivers and around the edges of lakes and pools.



### Measurements

Culm height: 0.33-2.50 m  
Leaf length: ± 500 mm  
Leaf width: NA  
Inflorescence: NA  
Spikelet length: NA  
Awn length: NA

## *Prionium serratum* (L.f.) Drège ex E.

Mey  
(PRINACEAE)

(A: Palmiet; : intsikane)

Synonyms:



Robust, palm-like, bluish-green shrub. **Stems:** Long-lived, woody, little-branched; densely covered in black-netting remains of leaves; water-absorbent. **Leaves:** Flat, long and narrow, tapering at the tip; sharply serrated, resembling giant pineapple leaves. **Inflorescence:** Tall, many flowered panicle on 3-sided flower stem. **Flowers:** Small bright brown florets. **Fruit:** Capsule enclosed in perianth, ovoid-acute, 3-sided; 1-2 ovoid-oblong seeds per locule. **Altitude:** 950-1200 m. **Wetland type:** Riverine/lacustrine. **Habitat:** Can form extensive, dense stands along the edge of permanent rivers and around the edge of lakes; also in streambeds interlinked with pools. **Distribution:** WC, EC and KZN. **General:** Declining, indigenous species found from India, Tropical Africa, extending southwards to the FSA region.

**Origin:** *Prionium* = Greek meaning saw; *serratus* = saw-toothed, referring to the leaf margins.

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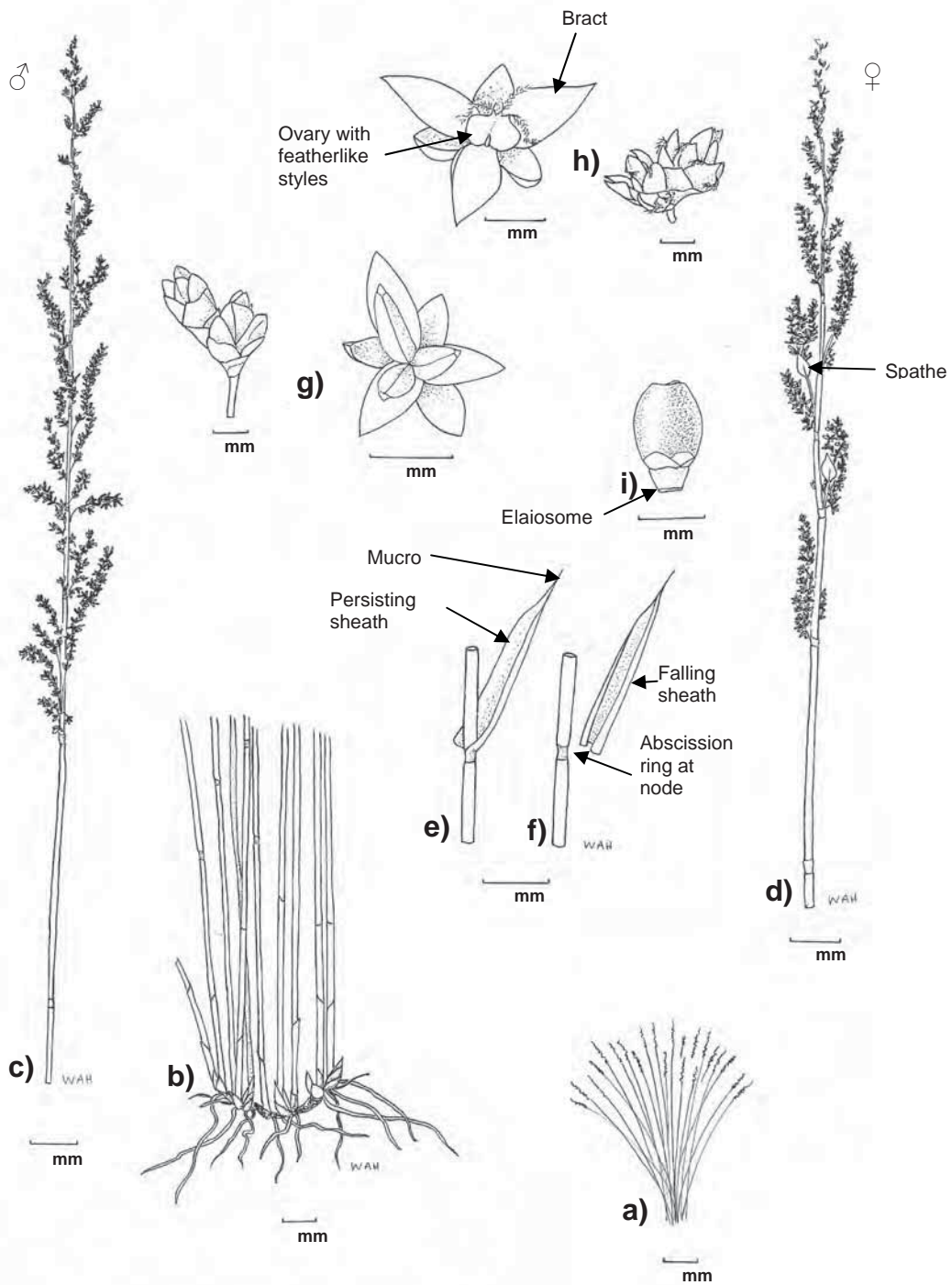


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Line illustrations of *Elegia tectorum*, showing the characteristics of the *Restionaceae*. a) Complete tufted plant showing the terminal inflorescences, b) rootstock of a creeping plant, c) male (♂) inflorescence, d) female (♀) inflorescence, e) persisting leaf sheath, f) falling leaf sheaths, g) Male florets and fruit, h) female florets showing styles, and i) the nutlet of *E. tectorum* with an elaiosome.

# RE ACEAE (RESTIOS)



The Restionaceae is a family of evergreen rush-like plants. The Restionaceae is together with the Proteaceae and the Ericaceae one of the major families that defines the fynbos, of the Cape Floristic Region.

The Restionaceae is largely confined to the Southern Hemisphere with approximately 320 species in Africa, 100 in Australia, 3 in New Zealand, one in Malaysia, South East Asia and Chile respectively.

## **Distribution**

In Africa 300 of the 320 species are endemic to the Cape Floristic Region; with a few species occurring further north in South Africa. The restios fulfil the niche of grasses in the fynbos. Approximately 19 of the Cape Species are considered threatened in the wild.

## **Descriptive characteristics**

The restios are known to have male and female plants that can differ considerably. Thus both male and female specimens need to be collected to make identification of the plant possible. Under natural conditions it is not always easy to distinguish which male and female plants belong together. Matching the sheaths on the stem may assist in identifying matching male and female plants, as they are identical. The small flowers are borne in loosely branched, compound inflorescences. The male flowers are more widely spaced and loosely arranged, while the female flowers are compact, and often protected within the striking golden or brown bracts.

## **Habitat**

In this book only the restios that are found in wet places are discussed as part of the wetland plants of southern Africa.

## **Notes**

The following pages show photographs of the habitat (where the plant occurs), habit (complete plant), culm with leaf sheath (as this is quite important in identifying the restios), the inflorescences (male ♂ and female ♀ flower heads) and the nutlet (the seed of the restios). If any of these are not shown, photographs were not available for this publication.



Measurements	
Culm height:	0.1-2.0 m
Sheath length:	5-15 mm
Sheath mucro length:	4-10 mm
♂ Inflorescence:	9-35 mm
♂ Flower length:	2-3 mm
♀ Inflorescence:	3.5-11.0 mm
♀ Flower length:	2.0-4.5 mm
Nutlet length:	± 4 mm

***Antochortus crinalis*** (Mast.) H.P. Linder  
(RESTIACEAE)

(E: Orgy grass)

**Synonyms:** *Restio crinalis* Mast.; *Hypolaena crinalis* (Mast.) Pillans; *Restio oblongus* Mast. and *Hypolaena tabularis* Pillans.



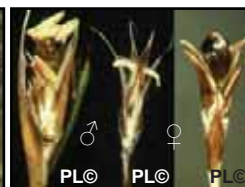
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A soft, yielding, bright green tangled perennial, forming big hummocks. **Culms:** Finely branched; smooth or with warts. **Leaves:** Persistent sheaths closely wrapped around culm; speckled with long hairlike awns. **Inflorescence:** Sexes look alike; ♂ inflorescence with 2-5 spikelets; ♀ inflorescence with 1 or 2-5 spikelets. **Flowers:** Very small, with hairlike spathes and bracts; one spikelet with flower at the tip of each culm, ♀ and ♂ similar. **Fruit:** Soft-walled nutlet. **Altitude:** 600-1800 m. **Habitat:** Cushion-forming in seeps, or forming tangled mats on cool cloud-catching ledges. **Distribution:** Widespread in WC from Cape Peninsula to Worcester and Riversdale. **General:** Endemic. **Similar species:** *A. laxiflorus*, but differs in earlier flowering time, the bracts with darker centre and longer, recurved apices; and more tuberculate culms. The two species often co-occur in the same marshes.

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**Origin:** *Anthos* = Greek for flower; *chortus* = Greek for green herbage, grass or pasturage; *crinus* = hair, presumably referring to hair-like leaf-sheath apices.





***Antochortus ecklonii*** Nees  
(RESTI ACEAE)

**Synonyms:** *Anthochortus ecklonii* Nees, Lindl.; *ildenovia ecklonii* (Nees) Dur & Schinz; *Hypolaena tenuis* Mast.; *Calorophus tenuis* (Mast.) Kuntze

**Measurements**

Culm height: 0.1-0.4 m  
Sheath length: 10-20 mm  
Sheath mucro length: 4-6 mm  
♂ Inflorescence: 20-150 mm  
♂ Flower length: 8-15 mm  
♀ Inflorescence: 10-40 mm  
♀ Flower length: 6-12 mm  
Nutlet length: 1.6-2.1 mm

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Small mat-forming or tangled perennial. **Culms:** Fertile, branching, striate, green with generally distinct longitudinal brown stripes. **Leaves:** Sheaths closely or loosely convoluted, green with longitudinal brown stripes, apical margins broadly membranous, sometimes with small rounded hyaline shoulder; sheath-mucro straight, hair-like, distinctly sulcate grooved. **Inflorescence:** Raceme. **Spikelets:** ♂ inflorescence with 2-5 or 6-10 spikelets; spathes taller than spikelets, cartilaginous, tightly convoluted; ♀ with 1 spikelet or 2-5 spikelets, linear, spathes shorter than the spikelets or as long as the spikelets. **Fruit:** Indehiscent with a softer ovary wall; nut apex smooth, without a distinct cap; seed release in November. **Altitude:** 700-1400 m. **Habitat:** Widespread in seepages and on the wet steep upper south-facing slopes. **Distribution:** WC in Fynbos biome. **General:** Endemic species in the Cape Floristic Region that form mats or hummocks. **Similar species:** *A. capensis*, which differ by the terminal spikelets; both species has ridged culms and remarkable lax ♂ spikelets, which look almost like several one-flowered spikelets.



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**Origin:** *Anthos* = Greek for flower; *chortus* = Greek for green herbage, grass or parturage; *ecklonii* = CF Ecklon collected extensively in southern Africa from 1823 until 1832, in collaboration with Drege.



### Measurements

Culm height: 0.2-0.5 m  
Sheath length: 5-10 mm  
Sheath mucro length: 5-15 mm  
♂ Inflorescence: 6-70 mm  
♂ Flower length: 2-3 mm  
♀ Inflorescence: 3-9 mm  
♀ Flower length: 2.0-2.5 mm  
Nutlet length: 1.48 mm

## *Antochortus graminifolius*

(Kunth.) H.P. Linder  
(*RESTIACEAE*)



### Synonyms:



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Tufted, mat-forming or tangled, above-creeping, perennial. **Culms:** Slender, branching, compressed, smooth or finely wrinkled, green or speckled golden (green with brown speckles). **Leaves:** Sheaths closely convoluted. **Inflorescence:** Paniculate ♂ inflorescence; spathes persistent; ♀ inflorescence with 1 spikelet; spathes longer than spikelet. **Spikelets:** ♂ spikelet spathes leather-like, sheath-like with long flattened awn; ♀ spikelet sessile, spathes leather-like with brown stipples and a long flattened awn. **Fruit:** Tan coloured; fruits with softer ovary wall; nut apex smooth without a distinct cap. **Altitude:** 200-1300 m. **Habitat:** Recorded from marshes and along streams and possibly part of the seepage hummock. **Distribution:** WC from the Cape Peninsula to the South-western mountains in Fynbos biome. **General:** A rare endemic.

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**Origin:** *Anthos* = Greek for flower; *chortus* = Greek for green herbage, grass or parturage; *gramen* = Latin for grass; *folius* = Latin referring to leaf.





***Antochortus insignis*** (Nees) H.P. Linder  
(RESTI ACEAE)

**Synonyms:** *Phyllocomos insignis* Mast.;  
*Anthochortus insignis* (Mast.) HP Linder

**Measurements**

Culm height: 0.4-0.7 m  
Sheath length: 15-40 mm  
Sheath mucro length: 5-12 mm  
♂ Inflorescence: 10-50 mm  
♂ Flower length: 4-7 mm  
♀ Inflorescence: 8-50 mm  
♀ Flower length: 3.5-5.0 mm  
Nutlet length: 1.7-1.8 mm

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Medium sized, but distinctive, tangled, above ground creeping, perennial. **Culms:** Sparingly branched, or branching with finely warty or roughly warty (granular), speckled golden brown. **Leaves:** Sheaths closely convoluted or loosely convoluted. **Inflorescence:** Paniculate or rounded; dense heads of silver-coloured spikelets and long finely awned bracts. **Flowers:** ♂ inflorescence with 6-50 spikelets; spathes persistent; ♀ inflorescence with 6-50 globose, sessile spikelets; female spathes longer than spikelets. **Fruit:** Indehiscent fruit with softer ovary wall; nut apex smooth, without distinct cap and elaiosome. **Altitude:** 450-1000 m. **Habitat:** Found in rocky streambeds of a few permanent, high-energy streams. **Distribution:** WC in Fynbos biome. **General:** A vulnerable endemic specie from the Western Cape. **Similar species:** None.



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**Origin:** *Anthos* = Greek for flower; *chortus* = Greek for green herbage, grass or parturage; *insignis* = latin meaning remarkable for outstanding, noted. Probably referring to the tall size of the plants.



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Measurements	
Culm height:	0.15-0.40 m
Sheath length:	5-25 mm
Sheath mucro length:	3-20 mm
♂ Inflorescence:	15-60 mm
♂ Flower length:	2.0-2.5 mm
♀ Inflorescence:	7-100 mm
♀ Flower length:	3.0-3.5 mm
Nutlet length:	1.8-2.3 mm

***Antochortus laxiflorus*** (Pillans) H.P. Linder  
(RESTIACEAE)



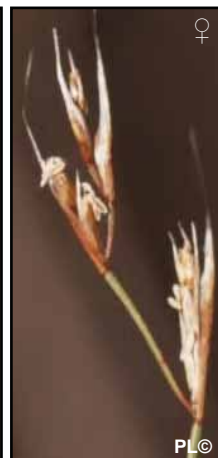
**Synonyms:** *Calorophus laxiflorus* (Nees) Kuntze; *Hypolaena laxiflora* Nees; *Hypolaena stokoei* Pillans; *Mastersiella laxiflora* (Nees) Gilg-Ben; *Antochortus laxiflorus* (Nees) HP Linder;.



Tangled, perennial, restoid plant. **Culms:** Branched; much-branched; round or compressed, smooth or finely rugulose or striate; speckled golden (sometimes plain brown). **Leaves:** Sheaths closely convoluted, as long as culm; apical margins coriaceous, or broadly membranous. **Inflorescence:** Racemose. **Spikelets:** ♂ inflorescence with 2-10 pedicellate or sessile spikelets, spathes persistent, shorter or as tall as spikelets; ♀ inflorescence with 1-5 spikelets; spathes shorter than or as long as spikelets. **Fruit:** Indehiscent fruit with softer ovary; nut apex smooth, without distinct cap and elaiosome absent. **Altitude:** 200-1005 m. **Habitat:** Found in seeps and swamps, forming typical hummocks. **Distribution:** WC from Cape Peninsula or South western mountains in Fynbos biome. **General:** Out of danger; Endemic. **Similar species:** *A. crinalis*, that differs by the reseeding habit, smooth culms, bracts almost entirely membranous and erect, and later flowering time. The two species often co-occur. Seedling similar to *A. graminifolius*.

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**Origin:** *Anthos* = Greek for flower; *chortus* = Greek for green herbage, grass or parturage; *laxe* = loosely; *flos* = flowers, referring to the flowers not tightly aggregated into spikelets.





## *Askidiosperma albo-aristata*

(Pillans) H.P. Linder  
(RESTI ACEAE)

**Synonyms:** *Chondropetalum albo-aristatum* Pillans

### Measurements

Culm height: 1-2 m  
Sheath length: 12-27 mm  
Sheath mucro length: 0.5-1.5 mm  
♂ Inflorescence: 50-140 mm  
♂ Flower length: 2.0-2.5 mm  
♀ Inflorescence: 30-50 mm  
♀ Flower length: 3.5-4.5 mm  
Nutlet length: 1.4 mm

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Short, tufted, perennial. **Culms:** Unbranched, round, solid or with small cavity, smooth or finely rugulose. **Leaves:** Sheaths golden brown, more than 1 per culm, dropping off, with an abscission line present, loosely convoluted or flat; standing free from culm. **Inflorescence:** Paniculate. **Flowers:** ♂ inflorescence with 11-20 sessile or pedicellate spikelets identical to ♀ spikelets arranged in pairs, subtended by 1 large obvious spathe and 1 smaller one; prominent, golden-brown, membranous spathes persistent, taller than spikelets. **Fruit:** Seed surface knobbly, silvery and quite different from the rest of the genus. **Altitude:** 700-1800 m. **Habitat:** Locally common along streams and seeps, forming dense unispecific clumps. **Distribution:** Found in the WC in the Cedarberg, from Sneeuberg and Kromriver in the south to Krakadouwsberg in the north in Fynbos biome. **General:** Endemic. **Similar species:** None.



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**Origin:** *Askidiosperma* = Greek for diminutive of askos' a bag, sac, wine skin or hide and sperma' greek for seed; *albus* = white; *aristatum* = awns, referring to the strikingly pale awns or bract apices found in some specimens.



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**Measurements**

Culm height: 0.3-1.3 m  
 Sheath length: 20-35 mm  
 Sheath mucro length: 0.5-1.0 mm  
 ♂ Inflorescence: 15-25 mm  
 ♂ Flower length: 4.0-4.5 mm  
 ♀ Inflorescence: 30-160 mm  
 ♀ Flower length: 5-6 mm  
 Nutlet length: 1.04-1.76 mm

***Askidiosperma chartaceum***

(Pillans) H.P. Linder  
 (RESTI ACEAE)



**Synonyms:** *ovea chartacea* Pillans;  
*Chondropetalum chartaceum* (Pillans) Pillans



Small to large tufted perennial, restoid plant. **Culms:** Unbranched, round, solid or slightly hollow, smooth, olivaceous. **Leaves:** Golden brown sheaths; more than 1 per culm, dropping off, with an abscission line present; loosely convoluted, margins entire. **Inflorescence:** Paniculate. **Flowers:** ♂ inflorescence with 11-50 sessile or pedicellate, woolly spikelets; spathes persistent and chartaceous, taller than spikelets, bracts deeply toothed along margins; ♀ inflorescence with 11-50 linear spikelets, spathes longer than spikelet, persistent; bracts taller or at least twice as long as flowers. **Fruit:** Brown, smooth seed surface; ovate side view; round in cross section. **Altitude:** 500-1800 m. **Habitat:** Scattered at streamsides or seasonally marshy places. **Distribution:** WC in the south-western mountains in the Fynbos biome. **General:** Indigenous specie.

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**Origin:** *Askidiosperma* = Greek for diminutive of 'askos' a bag, sac, wine skin or hide and 'sperma' greek for seed; *chartaceus* = papery, referring to the floral bracts.





## *Askidiosperma esterhuyseniae*

(Pillans) H.P. Linder  
(RESTIACEAE)

**Synonyms:** *Chondropetalum esterhuyseniae*  
Pillans

### Measurements

Culm height: 0.3-1.3 m  
Sheath length: 15-25 mm  
Sheath mucro length: 1-2 mm  
♂ Inflorescence: 80-150 mm  
♂ Flower length: 2.5-4.0 mm  
♀ Inflorescence: 50-120 mm  
♀ Flower length: 2.8-3.4 mm  
Nutlet length: 0.88-1.12 mm

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Compact tufted perennial. **Culms:** Unbranched, round, solid or slightly hollow, smooth or finely rugulose, olivaceous. **Leaves:** Brown to golden sheaths; more than 1 per culm, dropping off, with an abscission line present, loosely convoluted or flat and standing free from culm. **Inflorescence:** Paniculate. **Flowers:** ♂ inflorescence with 11-50 oblong to ovate spikelets; spathes taller than spikelets, chartaceous and persistent, bracts more than twice as tall as flowers with minute or absent awns; ♀ inflorescence with 6-20 linear, small spikelets, bracts sharply pointed, styles feathery. **Fruit:** Brown seed elliptical in side view and round in cross section. **Altitude:** 600-1600 m. **Habitat:** Locally dominant in marshy habitats and along streams. **Distribution:** Found in the WC in the south-western mountains in the Fynbos biome. **General:** Endemic.

**Origin:** *Askidiosperma* = Greek for diminutive of askos' a bag, sac, wine skin or hide and sperma' greek for seed; *esterhuyseniae* = EE Esterhuysen was the foremost collector from the Cape mountains between 1930 and 1990, and made Restionaceae her speciality.



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**Measurements**

Culm height: 0.69-2.30 m  
 Sheath length: 40-55 mm  
 Sheath mucro length: NA  
 ♂ Inflorescence: 70-230 mm  
 ♂ Flower length: 4-5 mm  
 ♀ Inflorescence: 70-260 mm  
 ♀ Flower length: 6-7 mm  
 Nutlet length: 1.44-1.88 mm

***Askidiosperma insigne*** (Pillans) H.P. Linder  
 (RESTIACEAE)



**Synonyms:** *Chondropetalum insigne* Pillans



Clumped, tufted, underground creeping, perennial. **Culms:** Aggregated at base, or spreading, unbranched or sparsely branched, evenly spaced; round, solid or slightly hollow, smooth or finely rugulose, olivaceous. **Leaves:** Pale brown sheath, more than 1 per culm, dropping off, loosely convoluted, margins entire. **Inflorescence:** Paniculate; ♂ inflorescence with 21-100 spikelets; ♀ inflorescence with 11-50 spikelets. **Flowers:** ♂: strikingly golden-brown persistent spathes, ♀: spathes longer than spikelets, persistent and chartaceous. **Fruit:** Brown seed, elliptical in side view and round in cross section. **Altitude:** 1300-2000 m. **Habitat:** Restricted to marshy areas or swamps with seasonally standing water near the summits of the mountains where they receive regular snow in winter. **Distribution:** Found in the WC in the Hex River and Koue Bokkeveld mountains in the Fynbos biome. **General:** Grow in alpine conditions. **Similar species:** None.

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**Origin:** *Askidiosperma* = Greek for diminutive of askos' a bag, sac, wine skin or hide and sperma' greek for seed; *insigne* = remarkable, outstanding, noted; probably referring to the tall size of the plants.





***Askidiosperma nitidum*** (Mast.) H.P.

Linder  
(RESTI ACEAE)

**Synonyms:** *Chondropetalum nitidum* (Mast.) Pillans; *ovea nitida* Mast.

**Measurements**

Culm height: 0.4-1.2 m  
Sheath length: 10-25 mm  
Sheath mucro length: 1-3 mm  
♂ Inflorescence: 25-130 mm  
♂ Flower length: 3-4 mm  
♀ Inflorescence: 15-90 mm  
♀ Flower length: 4.5-5.5 mm  
Nutlet length: 1.16-1.48 mm

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Tyfted, spreading, perennial. **Culms:** Fertile, unbranched, round, solid or with a small central cavity. **Leaves:** Golden sheaths, sharply pointed more than 1 per culm, dropping off, loosely convoluted or flat; standing free from culm; apical margins leather-like. **Inflorescence:** Male and female plants separate; ♂ racemous or paniculate; ♀ paniculate. **Flowers:** Long and golden-brown chartaceous spathes taller than ♂ spikelets that are found on stiff pedicels or sessile; Chartaceous, persistent spathes longer than ♀ spikelets. **Fruit:** side view ellipsoid; round in diameter with longitudinal ribs. **Altitude:** 205-1800 m. **Habitat:** Along stream margins, in seepages and generally in damp places on bedrock. **Distribution:** WC on the northern mountains and southern mountains in the Fynbos biome. **General:** Endemic. **Similar species:** Where the species co-occur with *Askidiosperma capitatum*, it usually occupies a wetter habitat.

**Origin:** *Askidiosperma* = Greek for diminutive of askos' a bag, sac, wine skin or hide and sperma' greek for seed ; *nitens* = latin for shiny, polished.



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**Measurements**

Culm height: 0.15-0.40 m  
 Sheath length: 5-15 mm  
 Sheath mucro length: 2-7 mm  
 ♂ Inflorescence: 10-15 mm  
 ♂ Flower length: 2.5-3.5 mm  
 ♀ Inflorescence: 7-15 mm  
 ♀ Flower length: 1.8-2.2 mm  
 Nutlet length: 1.2-1.3 mm

*Calopsis clandestina* Esterh.  
 (RESTI ACEAE)



**Synonyms:**



Small, tufted or tangled, without spreading rhizome or stolon, perennial, restoid. **Culms:** Fertile culms branching, roughly warty, olivaceous. **Leaves:** Green, brown or gray sheaths closely convoluted, with apical margins coriaceous, hyaline shoulders tall, acute. **Inflorescence:** Usually a single side shoots; ♂ and ♀ plants separate. **Flowers:** Single ♂ spikelet with persistent, cartilaginous spathes, spikelet erect on stiff pedicels or sessile; single, sessile ♀ spikelet with persistent, cartilaginous spathes like floral bracts. **Fruit:** Tan coloured, indehiscent fruit with a softer ovary wall; perianth persistent, papery to leathery, not winged; shape in side view oblong, top view round. **Altitude:** 0-1000 m. **Habitat:** Occurs in seasonally wet areas, either in marshes or shallow pools. **Distribution:** South-western area of WC. **General:** Rare indigenous species. **Similar species:** *Calopsis pulchra*, which do not have such glabrous flowers, and similarity between ♂ and ♀ spikelets.

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**Origin:** *Calopsis* = From the Greek word kalos' meaning beautiful and ophis' meaning sight; *clandestinus* = latin for secret, concealed or hidden; referring to the obscured or hidden female flowers.





***Calopsis monostylis*** (Pillans) H.P. Linder  
(RESTIACEAE)

**Synonyms:** *Leptocarpus monostylis* Pillans

**Measurements**

Culm height: 0.2-0.4 m  
 Sheath length: 12-25 mm  
 Sheath mucro length: NA  
 ♂ Inflorescence: 20-40 mm  
 ♂ Flower length: 4.2-4.5 mm  
 ♀ Inflorescence: 10-25 mm  
 ♀ Flower length: 3.7-4.2 mm  
 Nutlet length: 1.64-1.88 mm

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Compact, tufted or mat-forming, perennial. **Culms:** Fertile culms unbranched, finely warty or roughly warty. **Leaves:** Olivaceous brown with golden speckled sheaths, closely convoluted with needle shaped mucro. **Inflorescence:** ♂ racemose. **Flowers:** 2-5 ♂ spikelets with persistent spathes shorter than spikelet; 2-5 ♀ spikelets per inflorescence, styles feathery white. **Fruit:** Perianth winged, nut apex smooth without a distinct cap. **Altitude:** 1-1700 m. **Habitat:** Recorded from damp peaty soil, on seeps and marshy places. **Distribution:** Found in small area in the WC in Fynbos biome. **General:** Endemic, not a threatened species. **Similar species:** *Calopsis esterhuyseniae*, which has spreading rhizomes in contrast to this species, different sheath margins, and more than one style.



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**Origin:** *Calopsis* = From the Greek word kalos' meaning beautiful and opsis' meaning sight; *mono* = Greek for one, single; *stylus* = latin for style, referring to the single style of this species.



Measurements	
Culm height:	0.1-0.4 m
Sheath length:	5-13 mm
Sheath mucro length:	1.5-8.0 mm
♂ Inflorescence:	20-140 mm
♂ Flower length:	2-3 mm
♀ Inflorescence:	50-80 mm
♀ Flower length:	1.3-3.0 mm
Nutlet length:	0.72-1.60 mm

***Calopsis nudiflora*** (Pillans) H.P. Linder  
(RESTIACEAE)



**Synonyms:** *Leptocarpus nudiflorus* Pillans



Tufted or tangled, perennial, dwarf shrub. **Culms:** Fertile culms branching, roughly wart and olivaceous. **Leaves:** Pale brown sheaths, closely convoluted, . **Inflorescence:** Sparsely paniculate. **Flowers:** Spathes persistent, shorter than spikelets; ♂ erect on stiff pedicels or sessile, obovate or obtriangular; ♀ spathes as long as or longer than spikelets, persistent and coriaceous. **Fruit:** Indehiscent fruits with a softer ovary wall; unwinged, papery to leathery persistent perianth; nut apex smooth; elaiosome absent. **Altitude:** 200-1500 m. **Habitat:** Grow in areas along seepage and draining ditches, pebbly to bedrock soils. **Distribution:** Found in the WC in the south-western mountains in the Fynbos biome. **General:** Indigenous species with much variation. The higher altitude forms have much smaller spikelets and flowers than the lower altitude more coastal forms. **Similar species:** None.

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**Origin:** *Calopsis* = From the Greek word kalos' meaning beautiful and opsis' meaning sight; *nudus* = Latin for naked, unclothed or bare ; *flos* = latin for flower; referring to the flowers that are visible above the bracts.





***Calopsis paniculata*** (Rottb.) Desv.  
(RESTIACEAE)

(A: Besemgoed, besemriet, vleiriet)

**Synonyms:** *Calopsis ramiflora* (Nees) Kunth;  
*Leptocarpus paniculatus* (Rottb.) Mast.; *Restio paniculatus* Rottb.; *Restio pondoensis* Mast.; *Restio ramiflorus* Nees

**Measurements**

Culm height: 1.0-2.5 m  
Sheath length: 5-60 mm  
Sheath mucro length: 2-10 mm  
♂ Inflorescence: 100-350 mm  
♂ Flower length: 1.8-2.6 mm  
♀ Inflorescence: 100-400 mm  
♀ Flower length: 1.8-3.0 mm  
Nutlet length: 1.08-1.52 mm

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Tall, clumped, perennial, tufted, restoid shrub. **Culms:** Sparsely branched; stout; lower part bamboo like. **Leaves:** Leaf sheaths persistent; upper portion pale membranous and decaying. **Inflorescence:** ♂ and ♀ a large, much-branched panicle; with hundreds of spikelets. **Flowers:** ♀ light brown, perianth tepals papery; lateral sepals keeled; 3 feathery stules. **Fruit:** A nutlet. **Altitude:** 18-1525 m. **Habitat:** Growing both in streams, and in thicket vegetation, flanking streams; also in light shade in riverine forest; on sandstone or on quartzite soils. **Distribution:** WC, EC and KZN. **General:** Endemic species and the mature stems can be used in the cut-flower industry. **Similar species:** *Restio tetragonus* and *R. quadrates*, that have a similar perianth and inflorescence structure; but it can be distinguished by the round culms.

**Origin:** *Calopsis* = From the Greek word kalos' meaning beautiful and opsis' meaning sight; *panicle* = branching inflorescence, referring to the characteristically large branching inflorescence topping the plants.



### Measurements

Culm height: 0.75-3.96 m  
Sheath length: 10-65 mm  
Sheath mucro length: 2-10 mm  
♂ Inflorescence: 60-400 mm  
♂ Flower length: 2-3 mm  
♀ Inflorescence: 15-45 mm  
♀ Flower length: NA  
Nutlet length: 9-12 mm

## *Cannomois virgata* (Rottb.) Steud (RESTI ACEAE)

(E: Bellreed; A: Bergbamboes, besemriet, olifantsriet, perdehoef)

**Synonyms:** *Cannomois cephalotes* Desv.; *Elegia paniculata* Pers.; *Restio elegans* Poir.; *Restio scopa* Thunb.; *Restio virgatus* Rottb.; *Thamnochortus robustus* Kunth; *Thamnochortus virgatus* (Rottb.) Kunth



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Large, tufted or matforming, male and female grass-like plants. **Culms:** Very stout, branched. **Leaves:** Leaf sheaths persistent; closely wrapped around the culm. **Inflorescence:** Panicle; many flowered; ♀ at tip of culm; ♂ clustered at the nodes. **Flowers:** Many-flowered, brown spikelets,. The ♀ flowers are solitary, fat and spindle-shaped; has 1-chambered fruits and 2 long styles; with bony, tightly overlapping bracts; ♂ flowers small spindle-shaped to spherical spikelets,. **Fruit:** Tick-like, black nut; ± 9 mm long; flattened on one side; which are buried by ants. **Altitude:** 185-2020 m. **Habitat:** Frequent along streams and in wet seepages where it forms dense patches. **Distribution:** Widespread in the WC, EC and NC. **General:** Plants are not threatened and are used for horticulture. **Similar species:** *C. grandis*, which have a larger hollow in the female culm, is lower than 1.5 m high and has a spreading plant form.

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**Origin:** *Cannomois* = Greek *kanna* is a cane and *momois* is similar; *virgate* = Latin for branching habit of plants.





## *Chondropetalum microcarpum*

(Kunth) Pillans  
(RESTIACEAE)

**Synonyms:** *Elegia microcarpa* (Kunth) Moline & H.P.Linder; *ovea microcarpa* Kunth; *ovea rigens* Mast.

### Measurements

Culm height: 0.1-0.3 m  
Sheath length: 1.3-3.0 mm  
Sheath mucro length: 0.8-2.0 mm  
♂ Inflorescence: 10-30 mm  
♂ Flower length: 1.0-1.8 mm  
♀ Inflorescence: 10-60 mm  
♀ Flower length: 2.5-3.0 mm  
Nutlet length: 1.32-2.4 mm

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Mat-forming on long, deep-seated rhizomes; perennial, dwarf shrub. **Culms:** Branched, round, isolated and widely spaced; green or olive-coloured. **Leaves:** Tan-coloured with scattered maroon speckled sheaths persistent. **Inflorescence:** Paniculate. **Flowers:** Spikelet petals, sepals and bracts mature to a deep brown to black colour; spikelets < 3 mm and with 2 styles; ♂ and ♀ bracts shorter than flowers. **Fruit:** Brown, side view ovate, top view elliptical. **Altitude:** 5-500 m. **Habitat:** Locally dominant in seepages in the acidic sands of the west coast plains. It may also be found in seasonally wet hollows, but appears to prefer the vicinity of springs. **Distribution:** WC and EC. **General:** Endemic. **Similar species:** None.

**Origin:** *Chondros* = Greek meaning wheat or big grain of wheat; *petalum* = Greek meaning petal; *micro* = small; *carpos* = fruit; referring to the small fruit of this species.



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**Measurements**

Culm height: 0.6-2.0 m  
 Sheath length: 50-130 mm  
 Sheath mucro length: 4-20 mm  
 ♂ Inflorescence: 50-160 mm  
 ♂ Flower length: 2.5-3.0 mm  
 ♀ Inflorescence: 60-200 mm  
 ♀ Flower length: 4.5-7.0 mm  
 Nutlet length: 2.40-2.96 mm

## *Chondropetalum mucronatum*

(Nees) Pillans  
 (RESTIACEAE)

(E: Rocket restio; A: Bergriet, Olifantsriet)

**Synonyms:** *ovea mucronata* (Nees) Mast.;  
*Elegia mucronata* (Nees) Kunth; *Elegia panicoides*  
 Kunth; *Restio mucronatus* Nees



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Coarse, sturdy, tufted, perennial, shrub. **Culms:** Erect and unbranched. **Leaves:** Large pointed sheaths which drop off and leave conspicuous rings. **Inflorescence:** Panicle. **Flowers:** The large brushlike heads of male flowers are interspersed with tawny deciduous sheaths; the female flowers with 3 styles and a 3 chambered fruit hide within long, wide sheaths. **Altitude:** 120-1465 m. **Habitat:** Seeps and wet areas on sandstone, primarily in the cloud zones from the easterly winds. **Distribution:** WC. **General:** The common name refers to the exploding nature of the flower heads when they burn.

**Origin:** *Chondros* = Greek meaning wheat or big grain of wheat; *petalum* = Greek meaning petal; *mucronatum* = Meaning with a short tip.

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## *Chondropetalum rectum* (Mast.)

Pillans  
(RESTI ACEAE)

(A: Weskaapse dakriet)

**Synonyms:** *Elegia recta* (Mast.) Moline & H.P.  
Linder; *ovea recta* Mast.

### Measurements

Culm height: 0.15-0.60 m  
Sheath length: 7-15 mm  
Sheath mucro length: 5-10 mm  
♂ Inflorescence: 15-150 mm  
♂ Flower length: 1.5-2.0 mm  
♀ Inflorescence: 20-100 mm  
♀ Flower length: 2.5-3.0 mm  
Nutlet length: NA

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Small, mat-forming, tufted, perennial with long slender underground rootstock. **Culms:** Slender, unbranched. **Leaves:** Leaf sheaths falling after the growing season; light reddish-brown with tan speckles. **Inflorescence:** Many flowered panicle. **Flowers:** Spikelet petals, sepals and bracts mature to a deep brown to black colour; spikelets with 2 styles; petals as long as sepals. **Fruit:** Papery to leathery perianth persistent, nut apex smooth without distinct cap. **Altitude:** 15-155 m. **Habitat:** Seasonally waterlogged habitats over a wide range of soils. **Distribution:** Found in coastal forelands in WC from Cape Peninsula to Agulhas; and near Wolseley in the Worcester Valley. **General:** Vulnerable endemic species. **Similar species:** None.

**Origin:** *Chondros* = Greek meaning wheat or big grain of wheat; *petalum* = Greek meaning petal; *rectum* = Latin for to guide, direct.



En



### Measurements

Culm height: 0.25-1.00 m  
Sheath length: 25-70 mm  
Sheath mucro length: 2-5 mm  
♂ Inflorescence: 25-85 mm  
♂ Flower length: 1.7-2.7 mm  
♀ Inflorescence: 25-80 mm  
♀ Flower length: 2.5-3.5 mm  
Nutlet length: 2.32-3.20 mm

## *Elegia asperiflora* (Nees) Kunth (RESTIACEAE)

**Synonyms** *Elegia asperiflora* (Nees) Kunth var. *lacerata* (Pillans) Pillans; *E. ciliata* Mast.; *E. dregeana* Kunth; *E. glauca* Mast.; *E. lacerata* Pillans; *Restio asperiflorus* Nees



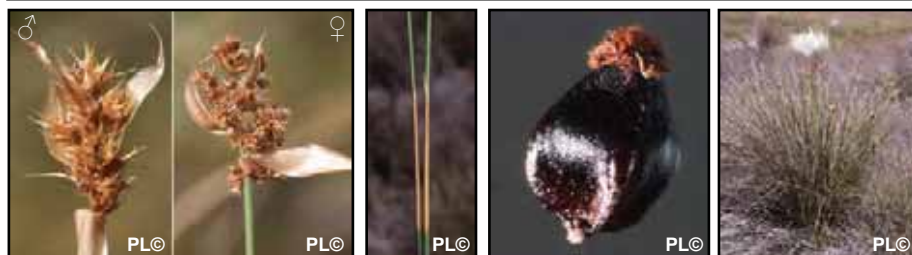
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Medium, clumped, mat-forming or tangled, perennial, with rhizomes. **Culms:** Lightly compressed to round, unbranched, evenly spaced. **Leaves:** Light brown, with scattered to dense red speckled sheaths, sometimes persistent on a slightly flattened culm; margin lighter coloured. **Inflorescence:** Paniculate. **Flowers:** Spathes persistent, ♂ and ♀ - cartilaginous spathes taller than spikelets; ♀ with lacerated bracts. **Fruit:** Indehiscent fruits with a softer ovary wall; brown nut, apex smooth, without cap, wall smooth, side view elliptical, top view triangular; no elaiosome. **Altitude:** 5-1740 m. **Habitat:** Very common in seasonally damp areas and seeps on sandstone slopes, almost always in full sun. **Distribution:** Widespread in WC, EC and MP. **General:** Endemic.

**Origin:** *Elegia* = Latin meaning song of lamentation; *asperus* = latin for roughness; *flos* = latin for flowers. Referring to the acuminate bracts giving the inflorescences a bristly appearance.

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***Elegia atratiflora*** Esterh.  
(RESTI ACEAE)

**Synonyms:**

**Measurements**

Culm height: 0.40-0.69 m  
 Sheath length: 30-80 mm  
 ♂ Inflorescence: 45-175 mm  
 ♂ Flower length: 1.5-1.7 mm  
 ♀ Inflorescence: 45-180 mm  
 ♀ Flower length: 2.0-2.6 mm  
 Nutlet length: 1.80-2.48 mm

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Dwarf, tufted, compact, perennial. **Culms:** Simple, compressed, solid or with a small cavity, smooth or rugose. **Leaves:** Sheaths dark brown; glossy, smooth and clear and falling off after the growing season. **Inflorescence:** Male and female inflorescence paniculate and on separate plants. **Flowers:** Reddish and covered with minute nipple-like protuberances; ♂ spathes taller than spikelets that are erect on pedicils or sessile, bracts awned; ♀ spikelets linear, spathes longer than spikelets, persistent, cartilaginous, bracts shorter than flowers, erect, oblong, ovate rounded or acute or acuminate, awn minute or absent. **Fruit:** Umwinged. Papery to leathery perianth; nut apex smooth, without distinct cap, wall tuberculate, no elaiosome. **Altitude:** 300-900 m. **Habitat:** Found in wet marshy areas. **Distribution:** Found in the WC from Hottentots Holland Mountains to the Kleinrivier Mountains in Fynbos biome. **General:** Endemic. **Similar species:** *Elegia thyrsoifera* and *E. fenestrata*, which are not tufted and the habitat differs.



En



**Origin:** *Elegia* = Latin meaning song of lamentation; *atratus* = latin for clothed in black; *flos* = flower; referring to the black or dark-coloured flowers.



**Measurements**

Culm height: 0.30-0.65 m  
 Sheath length: 30-60 mm  
 Sheath mucro length: 3-8 mm  
 ♂ Inflorescence: 25-65 mm  
 ♂ Flower length: 1.2-1.5 mm  
 ♀ Inflorescence: 30-70 mm  
 ♀ Flower length: 1.5-2.0 mm  
 Nutlet length: 1.52-2.16 mm

*Elegia caespitosa* Esterh.  
 (RESTIACEAE)



**Synonyms:**



**En**

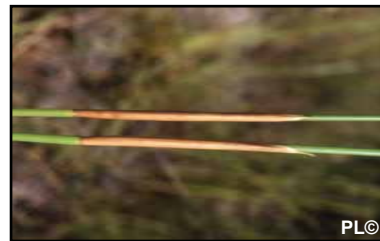
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Small to medium, tufted, perennial. **Culms:** Green or olivaceous, simple and compressed, solid or with small central cavity; smooth or finely wrinkled. **Leaves:** Yellowish to brown with fine mottled, pointed sheaths, falling off after the growing season or persistent. **Inflorescence:** Male and female inflorescence paniculate and on separate plants. **Flowers:** ♂ spikelets erect on stiff pedicels or sessile, with 3-6 flowers, bracts conspicuous, tall and slender, sharply pointed; ♀ spathes longer than spikelets, pedicel sparsely branched with 1-4 flowers, bracts taller than flowers, erect or reflexed, awn between half to as long as bract. **Altitude:** 70-600 m. **Habitat:** Found in wet marshy areas. **Distribution:** Found in WC from Bainskloof to Langebaan Mountains in Fynbos biome. **General:** Endemic. **Similar species:** *E. asperiflora*, that do have a rhizome and rounder culms.

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**Origin:** *Elegia* = Latin meaning song of lamentation; *caespitosus* = latin for tufted; referring to the tufted growth form.





***Elegia capensis*** (urm F) Schelpe  
(RESTIACEAE)

(A: Fonteineriet, besemriet)

**Synonyms:** *Elegia verticillaris* (L.f.) Kunth;  
*Equisetum capense* Burm.f.; *Restio verticillaris* L.f.

**Measurements**

Culm height: 1-3 m  
Sheath length: 35-80 mm  
Sheath mucro length: 4-7 mm  
♂ Inflorescence: 80-380 mm  
♂ Flower length: 3.5-5.0 mm  
♀ Inflorescence: 60-350 mm  
♀ Flower length: 2.0-2.7 mm  
Nutlet length: 0.88-2.28 mm

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Attractive species, tall, tufted perennial; with a spread of 1.5 m wide. **Culms:** Thick, bamboo-like branches arranged in whorls at the nodes. **Leaves:** Leaf sheath protecting new growth. **Inflorescence:** Panicle. **Spikelets:** Golden brown flowers; ♂ spathes caducuous, taller than spikelets, spikelets erect on stiff pedicels as long as spikelets or sessile; ♀ spathes longer than spikelets, pedicels sparsely branching. **Seeds:** Ripen in late summer from January to February and are contained in dark-brown seed heads. **Altitude:** 10-1600 m. **Habitat:** Forms large stands in wet seeps or along streams. **Distribution:** Found in the WC and EC from Clanwilliam to Port Elizabeth in Fynbos biome. **General:** Used in horticulture. **Similar species:** None, very distinct species.

**Origin:** *Elegia* = Latin meaning song of lamentation; *capensis* = of or from the Cape



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### Measurements

Culm height: 0.3-0.9 m  
Sheath length: 15-35 mm  
Sheath mucro length: 1.3-20 mm  
♂ Inflorescence: 25-85 mm  
♂ Flower length: 1.8-2.2 mm  
♀ Inflorescence: 15-55 mm  
♀ Flower length: 1.8-2.1 mm  
Nutlet length: 1.16-1.60 mm

## *Elegia coleura* Nees ex Mast. (RESTI ACEAE)

**Synonyms:** *Elegia exilis* Mast.



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Short, tufted, perennial with long, spreading rhizomes that forms large clumps. **Culms:** Unbranched, solid, smooth, tightly compressed, evenly spaced and flattened; clusters of sterile branches at the nodes. **Leaves:** Distinct, weakly persisting, tan coloured sheaths with reddish-brown speckles; at 45° angle to culm, before falling off after the growing season. **Inflorescence:** Paniculate. **Flowers:** ♂ spikelets 21-100, spathes taller than spikelets, cartilaginous, spikelets on pedicels or sessile, bracts taller than flowers with awn less than half of bract body; ♀ spikelets 11-50, spathes longer than spikelets, persistent, on simple pedicel, bracts shorter than flowers and erect. **Fruit:** Nut apex smooth, wall smooth or tuberculate; side view elliptical to ovate; top view triangular, elaiosome absent. **Altitude:** 50-1000 m. **Habitat:** Damp sandy flats in disturbed areas. **Distribution:** Found in the WC and EC; Cape Peninsula to Humansdorp in Fynbos biome. **General:** Endemic. **Similar species:** None.

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**Origin:** *Elegia* = Latin meaning song of lamentation; *coleura* = latin for a leather sack, liquid measure.





***Elegia equisetacea*** (Mast.) Mast.  
(RESTI ACEAE)

**Synonyms:** *Elegia propinqua* (Nees) Kunth var. *equisetacea* Mast.

**Measurements**

Culm height: 1-2 m  
Sheath length: 20-50 mm  
Sheath mucro length: 2-3 mm  
♂ Inflorescence: 50-190 mm  
♂ Flower length: 1.5-2.5 mm  
♀ Inflorescence: 50-200 mm  
♀ Flower length: 1.8-2.5 mm  
Nutlet length: 2.00-2.44 mm

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Attractive, medium to tall, tufted, perennial reed-like; no spreading rhizomes or stolons. **Culms:** Straight, round with dense sterile whorled branches at the nodes. **Leaves:** Reddish-brown with tan speckled sheaths more than 1 per culm, dropping off. **Inflorescence:** Golden paniculate flowerhead with large golden bracts. **Spikelets:** Spathes taller than ♂ spikelets 50-<500, erect on stiff pedicels or sessile, bracts shorter than flowers; ♀ spikelets 6-50, spathes longer than spikelets, simple pedicels, bracts shorter than flowers. **Fruit:** Small nutlet surrounded by small wings; seed often not viable. **Altitude:** 90-1600 m. **Habitat:** Found in slight seepages and along streams, but in the southern Cape it is often found on well-drained slopes; from the mountains to the plains around Bredasdorp; acidic soils to limestone soils. **Distribution:** Found in the WC and EC; widespread from the Cedarberg to Port Elizabeth in Fynbos biome. **General:** Common species that are used in horticulture. **Similar species:** *Elegia capensis*, which loses the spathes; older plants look similar to *E. unceus*.



En



**Origin:** *Elegia* = Latin meaning song of lamentation; *equisetum* = horse tail. Referring to the similarity in the vegetive growth-form between this species and the genus *Equisetum*.





### Measurements

Culm height: 0.40-0.65 m  
Sheath length: 1.5-2.0 mm  
Sheath mucro length: 0.4-0.6 mm  
♂ Inflorescence: 25-120 mm  
♂ Flower length: 1.4-1.8 mm  
♀ Inflorescence: 40-110 mm  
♀ Flower length: 1.5-2.2 mm  
Nutlet length: 1.36-1.84 mm

## *Elegia extensa* Pillans (RESTIACEAE)



### Synonyms:



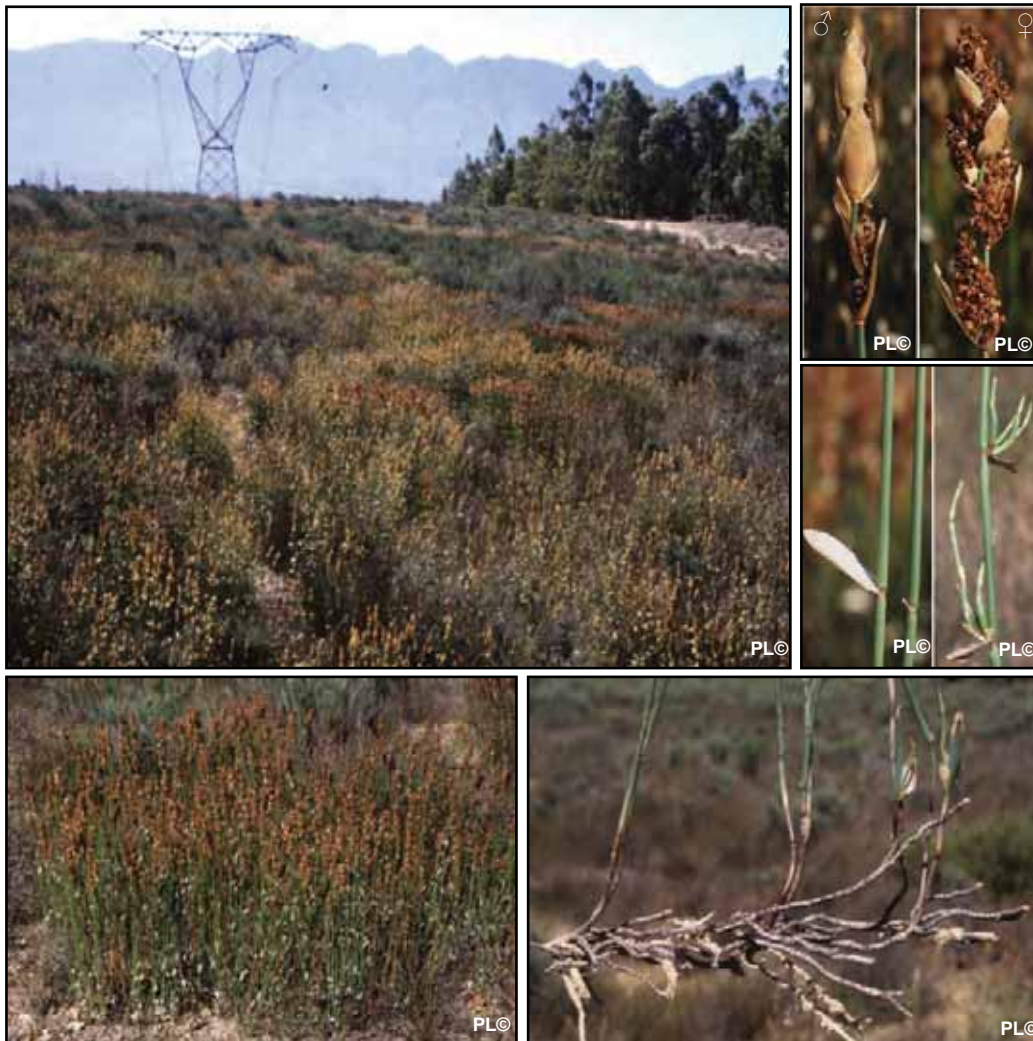
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Short, tufted, reed-like, perennial. **Culms:** Widely spaced, erect, simple or branching, terete or compressed, often with shorter sterile stems. **Leaves:** Leaf sheaths closely rolled lengthwise and twisted at tip, sometimes loose in their upper parts, persistent or falling off early. **Inflorescence:** Separate male and female inflorescences that look very similar. **Flowers:** Male florets smaller than female's; Male inflorescence many flowered; female inflorescence compact, one to many-flowered, bracts shorter than florets. **Fruit:** 3-sided nutlets. **Altitude:** 20-300 m. **Habitat:** High sandstone slopes. **Distribution:** Found in the WC from Wolseley to Bredasdorp in Fynbos biome. **General:** Endemic, endangered species. **Similar species:** *E. galpinii*, which is a taller plant and do not have such a spreading rhizome.

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**Origin:** *Elegia* = Latin meaning song of lamentation; *extend* = Latin for to stretch out, expand. Referring to the curious spreading rhizome.





***Elegia fenestrata*** Pillans  
(RESTIACEAE)

**Synonyms:**

**Measurements**

Culm height: 0.8-1.4 m  
 Sheath length: 45-70 mm  
 Sheath mucro length: 1.0-1.5 mm  
 ♂ Inflorescence: 50-200 mm  
 ♂ Flower length: 2-3 mm  
 ♀ Inflorescence: 50-250 mm  
 ♀ Flower length: 1.5-2.5 mm  
 Nutlet length: 1.80-1.92 mm

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Tall, tufted, mat-forming, reed-like, perennial; with stout rhizomes. **Culms:** Simple, unbranched, solid, round in cross-section and evenly spaced; smooth or finely wrinkled. **Leaves:** Dark brown sheaths shorter than florets; falling off at end of growing season; sometimes with speckles and tan margin. **Inflorescence:** Non-linear, oblong panicle. **Flowers:** Spikelets with 5-8 flowers; leathery spathes overlapping with spikelets. **Altitude:** 5-100 m. **Habitat:** Seeps on coastal marshy flats and the banks of small streams. **Distribution:** Found in the WC from Cape Peninsula to Bredasdorp in Duneveld thicket or Fynbos biomes. **General:** Vulnerable endemic specie that is used in horticulture. **Similar species:** *E. thyrsoifera*, which is a slender, tufted plant with short rhizomes, while *E. fenestrata* is a giant mat-forming plant with stout rhizomes.

**Origin:** *Elegia* = Latin meaning song of lamentation; *fenestratus* = Latin for window, loopholes, a breach.



En



**Measurements**

Culm height: 0.4-2.0 m  
 Sheath length: 22-70 mm  
 Sheath mucro length: 1.5-2.5 mm  
 ♂ Inflorescence: 60-250 mm  
 ♂ Flower length: 1-2 mm  
 ♀ Inflorescence: 30-200 mm  
 ♀ Flower length: 1.8-3.0 mm  
 Nutlet length: 1.56-2.8 mm

*Elegia fistulosa* Kunth  
 (RESTIACEAE)

(E: Hollow reed; A: Pypriet)

**Synonyms:** *Elegia fistulosa* Kunth var. *parviflora* Pillans



En



Short to medium, tufted, perennial. **Stems:** Round and distinctly hollow; smooth or finely rugulose, green. **Leaves:** Leaf sheaths green with reddish-brown speckles in lower part, upper portion deeper reddish-brown to tan, with dense brown speckles; falling after growing season. **Inflorescence:** Paniculate on every stem; Male and female flowers in separate inflorescences. **Spikelets:** The ♂ flowers are more prominent, spathes shorter than florets; the ♀ spikelets are small and inconspicuous, spathes longer than florets. **Fruit:** Seed are ripe a year after flowering. **Fruit:** Nut apex smooth with a distinct cap; shape in side view elliptical; shape in top view triangular; no elaiosome. **Altitude:** 10-1000 m. **Habitat:** Found in seeps and damp places or with roots in running water; from Malmesbury to Van Stadens mountains. **Distribution:** In the WC and EC in Fynbos biome. **General:** Widespread and common endemic; pollinated by wind and bees. **Similar species:** None

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**Origin:** *Elegia* Latin meaning song of lamentation; *fistula* = Latin for a pipe, referring to the hollow culms.





***Elegia fucata*** Esterh.  
(RESTI ACEAE)

**Synonyms:**

**Measurements**

Culm height: 0.2-0.4 m  
 Sheath length: 15-44 mm  
 Sheath mucro length: 1.5-2.2 mm  
 ♂ Inflorescence: 18-60 mm  
 ♂ Flower length: 1.2-1.7 mm  
 ♀ Inflorescence: 15-50 mm  
 ♀ Flower length: 1.2-1.8 mm  
 Nutlet length: 1.48-1.56 mm

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Dwarf, tufted, perennial without spreading rhizome or stolons. **Culms:** Unbranched and round, solid or with small cavity, smooth to warty. **Leaves:** Dark reddish-brown sheaths with underlying tan colouration, tan margins; a very distinct species due to large spathes which turn red as the flower matures. **Inflorescence:** Paniculate. **Flowers:** ♂ spikelets with persistent spathe, longer than spikelets, awned bracts longer than flowers; ♀ flowers with spathes longer than spikelets, pedicel sparsely branched; pointed bracts longer than spikelets. **Fruit:** Brown nut apex smooth, without distinct cap, elaiosome absent; side view elliptical; top view triangular. **Altitude:** 1500-1600 m. **Habitat:** Rare species, locally common in seeps and along streamlines. **Distribution:** Found in the WC in Fynbos biome. **General:** Indigenous. **Similar species:** None.



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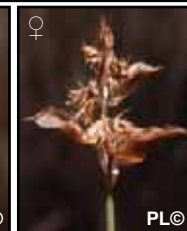
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### Measurements

Culm height: 0.7-1.5 m  
Sheath length: 50-90 mm  
Sheath mucro length: 0.5-2.5 mm  
♂ Inflorescence: 30-130 mm  
♂ Flower length: 2.5-3.0 mm  
♀ Inflorescence: 45-120 mm  
♀ Flower length: 2.5-4.0 mm  
Nutlet length: 2.48-3.20 mm

## *Elegia grandispicata* H.P. Linder (RESTIACEAE)



### Synonyms:



En



Medium to tall, tufted, perennial with spreading rhizome. **Culms:** Bluish, evenly spaced, round and rough. **Leaves:** Sheaths, tan to light-brown, to varying colours of green at base with brown speckles and tan entire margins. **Inflorescence:** Paniculate. **Flowers:** ♂ 21-<500, spathes caducous and leather-like, taller than spikelets, erect on stiff pedicels or sessile, bracts longer than spikelets, ovate and pointed, awn less than half of bract body; ♀ spathes longer than spikelets, pedicel simple, bracts longer than flowers, erect, ovate and pointed. **Fruit:** Brown nut, apex smooth, without distinct cap, side view ovate, top view triangular; elaiosome absent. **Altitude:** 1200-1800 m. **Habitat:** Seeps and along streams above a 1000 m; Often forming large stands. **Distribution:** Found in WC from Cedarberg to Langeberg Mountains in Fynbos biome. **General:** Endemic and used in horticulture. **Similar species:** *E. intermedia*, which have paler and thinner spathes.

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**Origin:** *Elegia* = Latin meaning song of lamentation; *grandis* = latin for large; *spicatus* = spikelets; referring to the large inflorescence of this species.





***Elegia intermedia*** (Steud.) Pillans  
(RESTI ACEAE)

(A: Besemriet)

**Synonyms:** *Elegia membranacea* (Nees) Kunth;  
*Restio intermedius* Steud. *Restio membranaceus*  
Nees

**Measurements**

Culm height: 0.3-2.0 m  
Sheath length: 45-110 mm  
Sheath mucro length: NR  
♂ Inflorescence: 20-80 mm  
♂ Flower length: 2-3 mm  
♀ Inflorescence: 50-80 mm  
♀ Flower length: 2-3 mm  
Nutlet length: 1.96-2.28 mm

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Medium to large, tufted, perennial, reed-like plant with spreading rhizomes or stolons. **Culms:** Compressed, smooth, green or olive-coloured. **Leaves:** Tan-coloured with dark-brown to reddish speckled sheaths, falling after growing season; bracts papery. **Inflorescence:** Crowded panicle; with male and female flowers on separate plants. **Flowers:** ♂ 11-100 spikelets, spathes chartaceous or membranous; spatellae conspicuous, pedicels shorter than flowers; bracts longer than flowers, sharply pointed; ♀ 11-50 spikelets, spathes longer than spikelets, spatellate conspicuous, pedicel sparsely branching, bracts longer than flowers, erect. **Fruit:** Brown nut, apex smooth, without distinct cap, side view elliptical, top view planoconvex, elaiosome absent. **Altitude:** 670-1670 m. **Habitat:** Moist sites on the Cape Peninsula. **Distribution:** WC. **General:** Rare endemic. **Similar species:** *E. grandispicata*, which have darker and broader spathes.



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**Origin:** *Elegia* = Latin meaning song of lamentation; *intermedius* = latin for in the middle.



Measurements	
Culm height:	0.2-1.0 m
Sheath length:	30-60 mm
Sheath mucro length:	0.45-2.00 mm
♂ Inflorescence:	25-65 mm
♂ Flower length:	1.5-2.5 mm
♀ Inflorescence:	25-80 mm
♀ Flower length:	3.5-5.0 mm
Nutlet length:	3.28-4.60 mm

*Elegia neesii* Mast.  
(RESTI ACEAE)



**Synonyms:** *Lamprocaulis neesii* (Mast.) Mast.;  
*Lamprocaulis schlechteri* Gilg-Ben.



En



Small to large, tufted, mat-forming perennial, reed-like plant, with very short rhizomes. **Culms:** Aggregated at base or sparsely branched; smooth or finely rugulose, or roughly warty, olive-coloured. **Leaves:** Light green to dark-brown with lighter speckled sheaths, with tan margin; closely rolled up lengthwise and often twisted at the tip; sheath point distinctly elongated and erect. **Inflorescence:** Panicle. **Flowers:** ♂ 21-100 spikelets; bracts shorter than spikelets, ovate, acute and chartaceous; ♀ 2-80 spikelets; spathes longer than the spikelets; bracts shorter than flowers, erect, elongated ovate. **Fruit:** Perianth persistent on brown nut, papery to leathery, not winged; nut side view obovate, top view elliptical. **Altitude:** 115-2000 m. **Habitat:** Sandstone slopes in seep vegetation and along stream margins. **Distribution:** WC and EC, from Cedarberg to Humansdorp. **General:** Endemic. **Similar species:** *E. prominens*, which have shorter sheaths, is more branched and has a longer perianth.

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**Origin:** *Elegia* = Latin meaning song of lamentation; *neesii* = Named after Christiaan G.D. Nees von Eysenbeck (1776-1858).





***Elegia thyrsifera*** (Rottb.) Pers.  
(RESTIACEAE)

(E A: Slanghoek Elegia)

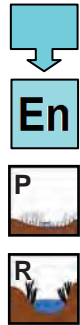
**Synonyms:** *Elegia acuminata* Mast.; *Restio thyrsifer* Rottb.

**Measurements**

Culm height: 1-2 m  
Sheath length: 35-75 mm  
Sheath mucro length: 0.5-1.3 mm  
♂ Inflorescence: 40-150 mm  
♂ Flower length: 2-3 mm  
♀ Inflorescence: 50-120 mm  
♀ Flower length: 2.5-4.5 mm  
Nutlet length: 1.2-2.5 mm

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Medium to very tall, clumped or tufted, perennial, reed-like plant, with looping rhizomes. **Culms:** Round, smooth, green. **Leaves:** Sheaths tan to light-brown with sparse or dense brown speckles, falling after growing season. **Inflorescence:** Paniculate. **Flowers:** ♂ 50-<500 spikelets, spathes as long as spikelets, with large conspicuous spathellae; bracts shorter than flowers; ♀ 51-500 spikelets, spathes longer than spikelets, much branched spikelet pedicel, bracts shorter than flowers, styles feathery. **Fruit:** Black nut, apex smooth, without cap, wall smooth, side view elliptical, top view triangular. **Altitude:** 30-1200 m. **Habitat:** Damp mountain slopes. **Distribution:** WC and EC from Cape Peninsula to Knysna. **General:** Endemic. **Similar species:** *E. grandispicata*, which do not have looping rhizomes, and have bluish green culms; *E. fenestrata*, which do not have rhizomes.



**Origin:** *Elegia* = Latin meaning song of lamentation; *thyrs* = a dense flower cluster.





### Measurements

Culm height: 0.08-0.45 m  
Sheath length: 0.9-2.0 mm  
Sheath mucro length: 4-6 mm  
♂ Inflorescence: 15-50 mm  
♂ Flower length: 2.5-3.0 mm  
♀ Inflorescence: 5-60 mm  
♀ Flower length: 3-4 mm  
Nutlet length: 1.80-2.48 mm

## *Elegia verreauxii* Mast. (RESTIACEAE)



### Synonyms:



Small to medium, mat-forming, perennial, reed-like plant, with slender spreading underground rootlike system. **Culms:** Flattened, clustered with each cluster having numerous diverging rhizomes, smooth, olive-coloured. **Leaves:** Light brown sheaths with yellow/tan margins, falling off after growing season. **Inflorescence:** Paniculate. **Flowers:** ♂ 6-50 spikelets, spatellae conspicuous, 4-6.5 mm long, ovate, obtuse or acute bracts as long as, or longer than spikelets; ♀ 2-20, spathes as long as, or longer than spikelets, bracts as long as, or longer than flowers, styles feathery. **Fruit:** Papery to leathery perianth persistent, brown nut, apex smooth, without distinct cap; side view elliptical, top view elliptical, elaiosome absent. **Altitude:** 10-200 m. **Habitat:** Forms dense mats in seasonally waterlogged damp flats. **Distribution:** Found in the WC from Malmesbury to Agulhas in Dune thicket or Fynbos biomes. **General:** Vulnerable endemic species. **Similar species:** *E. vaginulata*, which has a different type of rhizome.

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**Origin:** *Elegia* = Latin meaning song of lamentation; *verreauxii* = Named after the collector of history objects, PJ Verreaux, who was active in the southern Cape between 1826 and 1840.



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***Hydrophilus rattrayi*** (Pillans) H.P.

Linder  
(RESTIACEAE)

**Synonyms:** *Leptocarpus rattrayi* Pillans

**Measurements**

Culm height: 0.3-1.0 m  
 Sheath length: 5-25 mm  
 Sheath mucro length: 4-20 mm  
 ♂ Inflorescence: 15-160 mm  
 ♂ Flower length: 4-5 mm  
 ♀ Inflorescence: 15-50 mm  
 ♀ Flower length: 3-5.5 mm  
 Nutlet length: 2.5-3.0 mm

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Small to medium, clumped or mat-forming, perennial, reed-like plant, often with above ground rootstock. **Culms:** Sparsely branched, smooth speckled golden. **Leaves:** Brown sheaths persistent with entire or ciliated margins. **Inflorescence:** Racemose. **Flowers:** Distinct white papery spikelets; ♂ 2-10 spikelets, spathes persistent, shorter than or as long as sessile spikelets, with papery, thin opaque bracts, longer or twice as long as flowers; ♀ 1-5 spikelets, persistent spathes shorter than sessile spikelet, bracts longer than or twice as long as flowers. **Fruit:** Perianth absent, brown, smooth nut, apex smooth, without distinct cap; side view elliptical, top view elliptical, elaiosome absent. **Altitude:** 600-2000 m. **Habitat:** Forming spreading clumps along streams and along margins of wet seepages in arid areas. **Distribution:** Found in the WC and EC from Cedarberg to Swartberg mountains and Hogsback in Fynbos biome. **General:** Indigenous. **Similar species:** None.



**Origin:** *Hydrophilus* = drawn to or belonging to water; *rattrayi* = Named after G Rattray, the principal of Selbourne College in East London from 1904, he collected extensively in the Eastern Cape over a period of 30 years.



### Measurements

Culm height: 0.10-0.25 m  
Sheath length: 2-15 mm  
Sheath mucro length: 1-4 mm  
♂ Inflorescence: NA  
♂ Flower length: NA  
♀ Inflorescence: 10-50 mm  
♀ Flower length: 2.7-4.0 mm  
Nutlet length: 1.12-1.36 mm

## *Ischyrolepis feminea* Esterh. (RESTIACEAE)



### Synonyms:



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A small, compact, tufted, perennial, without rhizomes. **Culms:** Branched prolifically below the inflorescence, green. **Leaves:** Greenish or tan coloured sheaths, glossy brown margins, persistent and long pointed. **Inflorescence:** Usually a single terminal spikelet, occasionally twinned. **Flowers:** Only ♀ inflorescences known; spikelet with solitary style; spathes as long as the spikelet, persistent; bracts shorter than flowers. **Fruit:** White seed, side view elliptical, top view round. **Altitude:** 5-15 m. **Habitat:** Limestone slopes in coastal marshes. **Distribution:** Found in WC at Agulhas coastal area in Fynbos biome. **General:** Rare and endangered, endemic species. **Similar species:** *I. paludosus*, which have more than one style.

**Origin:** *Ischyrolepis* = From Greek ischyros' meaning strong and lepis' meaning scale; *feminea* = Latin for relating to a woman; referring to the scarcity of males in this species.

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***Ischyrolepis gossypina*** (Mast.) H.P.  
Linder  
(RESTIACEAE)

**Synonyms:** *Restio gossypinus* Mast.

**Measurements**

Culm height: 0.20-0.45 m  
Sheath length: 7-21 mm  
Sheath mucro length: 4-23 mm  
♂ Inflorescence: 8-65 mm  
♂ Flower length: 3.5-6.0 mm  
♀ Inflorescence: 6-50 mm  
♀ Flower length: 4-7 mm  
Nutlet length: 1.52-1.84 mm

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Small to medium, tufted, perennial, reed-like plant. **Culms:** Slender and branched. **Leaves:** Woolly bracts in sheath axes. **Inflorescence:** Male and female inflorescences on different plants. **Flowers:** Spikelets style bases with conspicuous weak hairs. **Fruit:** Translucent, silvery or white with yellowish-brown under colour shining through; side view elliptical, round in cross section. **Altitude:** 460-1830 m. **Habitat:** Light seeps and moist slopes. **Distribution:** WC and NC; from Namaqualand and western Karoo to Hottentots Holland and Swartberg mountains. **General:** Indigenous.



**Origin:** *Ischyrolepis* From Greek ischyros' meaning strong and lepis' meaning scale; *gossypina* = latin for cottony; referring to the tufts of hair emerging from the leaf sheaths.



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**Measurements**

Culm height: 0.07-0.35 m  
 Sheath length: 3-12 mm  
 Sheath mucro length: 0.7-8.0 mm  
 ♂ Inflorescence: 6-60 mm  
 ♂ Flower length: 3.6-5.0 mm  
 ♀ Inflorescence: 6-50 mm  
 ♀ Flower length: 3.0-4.5 mm  
 Nutlet length: 0.84-1.28 mm

***Ischyrolepis papillosa*** Esterh.  
 (RESTIACEAE)



**Synonyms:**



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Small, tufted or mat-forming, perennial, reed-like plant. **Culms:** Reddish, branched and often swollen at the base. **Leaves:** Tan or orange/light to dark-brown sheaths; Mucro penicillate, flattened, straight, erect or recurved. **Inflorescence:** Racemose. **Flowers:** ♂ 2-10, spathes shorter than spikelets; ♀ 1-10 spikelets, spathes shorter or a long as spikelets, bracts longer than flowers. **Fruit:** Brown, colliculate, side view elliptical, top view round. **Altitude:** 0-300 m. **Habitat:** Coastal seeps and flats. **Distribution:** Found in the WC and EC, from Malmesbury to Langkloof in the Fynbos biome. **General:** Vulnerable endemic specie. **Similar species:** *I. palludosus*, which are not so slender and do not have the red swollen base.

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**Origin:** *Ischyrolepis* = From Greek ischyros' meaning strong and lepis' meaning scale; *papilla* = Latin for nipple or teat; referring to the tuberculate culms, covered in small nipple-like bumps.





***Ischyrolepis pratensis*** Esterh.  
(RESTIACEAE)

**Synonyms:**

**Measurements**

Culm height: 0.10-0.25 m  
 Sheath length: 5-11 mm  
 Sheath mucro length: 0.7-6.0 mm  
 ♂ Inflorescence: 8-32 mm  
 ♂ Flower length: 5-6 mm  
 ♀ Inflorescence: 5-30 mm  
 ♀ Flower length: 4.5-6.7 mm  
 Nutlet length: 1.0-1.2 mm

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Small, tufted or mat-forming, perennial, with above-ground rootstock, forming large tussocks. **Culms:** Green, branched, warty; terminal branches slightly curved or straight. **Leaves:** Leaf sheaths persistent. **Inflorescence:** Male and female flowers on different plants, looking similar. **Flowers:** Spikelets with 1 or 2 flowers; Male spikelets 10-15 mm long; Female flowers 4-10 mm long. **Fruit:** White, with wavy longitudinal lines; side view elliptical; top view plano-convex. **Altitude:** 0-300 m. **Habitat:** Sand or gravel in seasonally wet places. **Distribution:** WC from Cape Peninsula to Worcester. **General:** Endangered endemic species. **Similar species:** None. The large ♂ spikelets (< 10 mm) are distinctive.



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**Origin:** *Ischyrolepis* = From Greek ischyros' meaning strong and lepis' meaning scale; *pratensis* = Latin for meadow; this species is found in short vegetation in seasonally waterlogged lowlands.



**Measurements**

Culm height: 0.15-0.40 m  
 Sheath length: 3-10 mm  
 Sheath mucro length: 0.5-3.0 mm  
 ♂ Inflorescence: 5-20 mm  
 ♂ Flower length: 3-4 mm  
 ♀ Inflorescence: 3-30 mm  
 ♀ Flower length: 1.5-3.5 mm  
 Nutlet length: 0.88-1.16 mm

***Ischyrolepis rivulus*** Esterh.  
 (RESTI ACEAE)



**Synonyms:** *Ischyrolepis rivula* Esterhuysen



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Small to medium, tangled, mat-forming, perennial, with above-ground rootstock. **Culms:** Olive-coloured, smooth, erect and branched. **Leaves:** Leaves whorled at nodes. **Inflorescence:** Few-flowered. **Flowers:** Solitary spikelets. **Altitude:** 600-1300 m. **Habitat:** Seeps and streambanks. **Distribution:** Found in the WC from Cedarberg to Cold Bokkeveld mountains in Fynbos biome. **General:** Endemic. **Similar species:** *I. tenuissima*, which is tufted, the ♂ spikelets is smaller, and the seeds are rougher.

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**Origin:** *Ischyrolepis* = From Greek ischyros' meaning strong and lepis' meaning scale; *rivulus* = Latin for a small brook; this species is found near streams or seepages.



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***Ischyrolepis sabulosa*** (Pillans) H.P.  
Linder  
(RESTIACEAE)

**Synonyms:** *Restio sabulosus* Pillans

**Measurements**

Culm height: 0.08-0.45 m  
Sheath length: 0.9-2.0 mm  
Sheath mucro length: 4-6 mm  
♂ Inflorescence: 15-50 mm  
♂ Flower length: 2.5-3.0 mm  
♀ Inflorescence: 5-60 mm  
♀ Flower length: 3-4 mm  
Nutlet length: 1.80-2.48 mm

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Small, tangled, tufted, perennial, with underground rootstock. **Culms:** Sparingly branched, round, covered with small knobs. **Leaves:** Light green or tan sheaths leater-like and tip squared. **Inflorescence:** Racemose. **Flowers:** Female flowers solitary spikelets. **Fruit:** White, colliculate, side view elliptical; top view round. **Altitude:** 5-20 m. **Habitat:** Coastal flats and slopes; restricted to winter waterlogged areas, growing partially submerged in water. **Distribution:** Found in the WC from Cape Flats to Bredasdorp in Fynbos biome. **General:** Endangered endemic species. **Similar species:** None.

**Origin:** *Ischyrolepis* = From Greek ischyros' meaning strong and lepis' meaning scale; *sabulosa* = Latin for gravel, sand; referring to the habitat in sandy places.



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**Measurements**

Culm height: 0.10-0.25 m  
 Sheath length: 3-20 mm  
 Sheath mucro length: 1-12 mm  
 ♂ Inflorescence: 5-30 mm  
 ♂ Flower length: 1.8-2.3 mm  
 ♀ Inflorescence: 5-40 mm  
 ♀ Flower length: 2.0-3.8 mm  
 Nutlet length: 0.88-1.36 mm

***Ischyrolepis tenuissima*** (Kunth) H.P.

Linder  
 (RESTIACEAE)

**Synonyms:** *Hypolaena tenuissima* Pillans; *Restio ludwigii* Steud.; *Restio nutans* Steud.; *Restio tenuissimus* Kunth



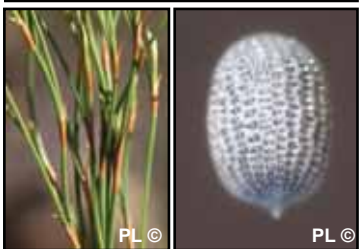
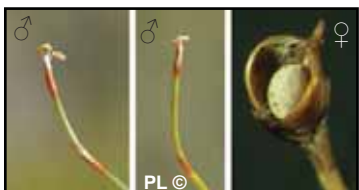
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Small tangled, perennial, with above-ground rootstock. **Culms:** Erect, slender and branched; terminal branches very curved; finely warty. **Leaves:** Leaf sheaths leater-like and tip acute. **Inflorescence:** Usually 1 spikelet per culm. **Flowers:** Solitary, 2-5 mm long. **Fruit:** White, ribbed and pitted; side view elliptical; top view round. **Altitude:** 30-1525 m. **Habitat:** Along streams, on rock flushes and marshes in the mountains. **Distribution:** WC from Cold Bokkeveld near Ceres to Piketberg, Cape Peninsula and Swellendam. **General:** Endemic.

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**Origin:** *Ischyrolepis* = From Greek ischyros' meaning strong and lepis' meaning scale; *tenuissimus* = Latin for very slender or most slender; referring to the very thin culms.





## *Ischyrolepis wallichii* (Mast.) H.P.

Linder  
(RESTI ACEAE)

**Synonyms:** *Restio humilis* Pillans; *Restio wallichii* Mast.

### Measurements

Culm height: 0.25-0.70 m  
Sheath length: 6-20 mm  
Sheath mucro length: 3-6 mm  
♂ Inflorescence: 15-60 mm  
♂ Flower length: 2 mm  
♀ Inflorescence: 5-60 mm  
♀ Flower length: 2.0-2.2 mm  
Nutlet length: 0.80-1.04 mm

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Small, tufted or mat-forming, perennial, with underground rootstock. **Culms:** Slender, branched and finely spotted. **Leaves:** Pale brown to cream-coloured sheaths having bristle-like, pointed mucro. **Inflorescence:** Racemose. **Flowers:** Awl-shaped to round, with a sharp point; both ♂ and ♀ sheaths shorter than spikelets. **Fruit:** Brown, stalked, elaiosome absent; side view obovate, top view round. **Altitude:** 200-1600 m. **Habitat:** Mostly along streamlines and riverbeds. **Distribution:** WC from Bokkeveld mountains to Riviersonderend. **General:** Endemic. **Similar species:** *I. paludosa*, which have only one flower per ♀ spikelet.

**Origin:** *Ischyrolepis* = From Greek *ischyros*' meaning strong and *lepis*' meaning scale; *wallichii* = Named after N. Wallich, the superintendent of the East Indian Co. Botanic garden in Calcutta, whom collected on periodic visits to the Cape, especially in 1842 and 1843.



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**Measurements**

Culm height: 0.8-1.5 m  
 Sheath length: 15-25 mm  
 Sheath mucro length: 3-10 mm  
 ♂ Inflorescence: 10-50 mm  
 ♂ Flower length: 3.2-4.0 mm  
 ♀ Inflorescence: 40-60 mm  
 ♀ Flower length: 5.5-7.5 mm  
 Nutlet length: 3-4 mm

*Nevillea obtusissima* (Steud.) H.P.  
 Linder  
 (RESTIACEAE)



**Synonyms:** *Restio obtusissimus* Steud.



**En**



Small to medium, tufted, perennial and clump-forming. **Stems:** Dull green, unbranched stems; distinctly hollow. **Leaves:** Brown sheaths persist on the stems, with long sharp point. **Inflorescence:** Terminal with small spathes; 2-3 clubshaped flowerheads. **Flowers:** Strong tapering point; Male bearing knobby; female inflorescence contrasting significantly from male inflorescence. **Fruit:** Brown, elaiosome absent; 2-chambered; side view elliptical; top view round. **Altitude:** 400-1220 m. **Habitat:** It occurs on marshy slopes and in valley bottoms. **Distribution:** Found in the WC Elandskloof mountains and Cape Peninsula to Kleinrivier mountains in Fynbos biome. **General:** Endemic. **Similar species:** None, distinctive by elliptical, almost cone-like ♂ spikelets, while the ♀ spikelets are very obscure.

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**Origin:** *evillea* = Named after Neville Stuart Pillans 1884-1964), a well known Cape botanist; *obtusissima* = most blunt, probably referring to the rounded male spikelets.





***Nevillea singularis*** Esterh.  
(RESTIACEAE)

**Synonyms:**

**Measurements**

Culm height: 0.2-0.6 m  
 Sheath length: 15-30 mm  
 Sheath mucro length: 4-10 mm  
 ♂ Inflorescence: 10-50 mm  
 ♂ Flower length: 1.8-2.3 mm  
 ♀ Inflorescence: 20-45 mm  
 ♀ Flower length: 5.0-7.5 mm  
 Nutlet length: 3.17-4.17 mm

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Small, tufted or clumped, perennial; with spreading underground rootstock. **Culms:** Evenly spaced, hollow, smooth and dull-green or brown. **Leaves:** Leaf sheaths blunt to rounded. **Inflorescence:** Racemose or paniculate. **Flowers:** ♂ spathes falling early, with distinct awns; 2-5 spikelets, bracts shorter or as long as flowers; ♀ linear, 1-5 spikelets, spathes shorter than flower. **Fruit:** Brown, smooth nut; side view elliptical; top view elliptical. **Altitude:** 1000-1200 m. **Habitat:** Along the damp margins of marshes. **Distribution:** WC Riviersonderend mountains on Kanonkop at Genadendal. **General:** Vulnerable endemic species. **Similar species:** . *obtusissima*, which have larger ♂ spikelets; and ♀ spikelets are smaller than the spathes.



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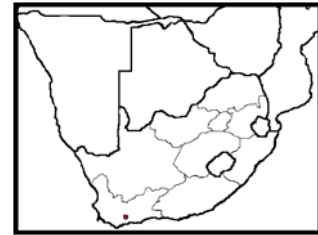
**Origin:** *evillea* = Named after Neville Stuart Pillans 1884-1964), a well known Cape botanist; *singularis* = single.



**Measurements**

Culm height: 0.3-1.0 m  
 Sheath length: 10-20 mm  
 Sheath mucro length: 2-7 mm  
 ♂ Inflorescence: 10-15 mm  
 ♂ Flower length: 5-15 mm  
 ♀ Inflorescence: 10-15 mm  
 ♀ Flower length: 5.0-5.5 mm  
 Nutlet length: 2 mm

***Platycaulos acutus*** Esterh.  
 (RESTIACEAE)



**Synonyms:**



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Small, tufted, tangled, perennial; forms dense shaped cushions. **Culms:** Compressed, ribbed margins and branched; fertile culms smooth or finely warty, dull-green. **Leaves:** Sheaths persistent, initially same colour as culm, later brown; with 2-7mm long penicillate mucro. **Inflorescence:** ♂ a single terminal spikelet; ♀ 1 or 2-5 spikelets sparsely paniculate. **Flowers:** ♂ flowers in spikelets, bracts longer than flower or more than twice the length; ♀ flowers longer than spikelets, bracts at least twice as long as flowers. **Altitude:** 1350-1700 m. **Habitat:** Forms dense hummocks in seeps along streams. **Distribution:** WC from Langeberg to Swellendam. **General:** Rare, vulnerable endemic species. **Similar species:** None.

**Origin:** *Platycaulos* = Greek word, *platy*, meaning broad, and *caulis* meaning stems, referring to the large round culms typical of this species; *acutus* = Latin for sharp point.

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***Platycaulos anceps*** (Mast.) H.P. Linder  
(RESTIACEAE)

**Synonyms:** *Calorophus anceps* (Mast.) Kuntze;  
*Hypolaena anceps* Mast.; *Restio anceps* (Mast.)  
Pillans; *Restio aspericaulis* Pillans

**Measurements**

Culm height: 0.3-1.0 m  
Sheath length: 8-20 mm  
Sheath mucro length: 2-5 mm  
♂ Inflorescence: 15-60 mm  
♂ Flower length: 2.5-4.5 mm  
♀ Inflorescence: 5-50 mm  
♀ Flower length: 3-6 mm  
Nutlet length: NA

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Small, mat-forming, tangled, perennial. **Culms:** More or less compressed, distinctly ribbed, branched; fertile culms smooth or finely warty, especially along the ribs. **Leaves:** Green sheaths eventually turns grey-brown; mucro awl or needleshaped. **Inflorescence:** Racemose or paniculate. **Flowers:** ♂ 2-10 spikelets; spathes persistent and longer than spikelets; ♀ spikelets 2-10, spathes longer than spikelets, bracts twice as long as spikelets. **Fruit:** Unilocular ovary. **Altitude:** 455-1220 m. **Habitat:** Requires water throughout the year, found in seepages or streambanks. **Distribution:** WC and EC from Kleinrivier mountains to Tsitsikamma. **General:** Endemic. **Similar species:** *P. cascadiensis*, which have a bilocular ovary.

**Origin:** *Platycaulos* = Greek word, *platy*, meaning broad, and *caulis* meaning stems, referring to the large round culms typical of this species; *anceps* = Latin for two-headed.



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**Measurements**

Culm height: 0.3-1.0 m  
 Sheath length: 12-35 mm  
 Sheath mucro length: 3-8 mm  
 ♂ Inflorescence: 25-70 mm  
 ♂ Flower length: 3-5 mm  
 ♀ Inflorescence: 7-25 mm  
 ♀ Flower length: 3.5-4.5 mm  
 Nutlet length: 0.80-1.36 mm

***Platycaulos cascadensis*** (Pillans)

H.P. Linder  
 (RESTIACEAE)



**Synonyms:** *Restio cascadensis* Pillans



Small to medium, tufted to tangled, sprawling perennial. **Culms:** Compressed, thickened at margins, branched, usually trailing through vegetation. **Leaves:** Green turning to grey-green sheaths, persistent; mucro awl or needleshaped. **Inflorescence:** Racemose. **Flowers:** ♂ spikelets 2-5, spathes longer than spikelets; ♀ spikelets solitary or rarely in pairs, spathes as long as spikelets. **Fruit:** White nut, side view obovate; top view round. **Altitude:** 1-1200 m. **Habitat:** Streams, waterfalls and seeps. **Distribution:** Found in WC from Kogelberg to Betty's Bay in Fynbos biome. **General:** Rare endemic. **Similar species:** *P. anceps*, which has a unilocular ovary.

**Origin:** *Platycaulos* = Greek word, *platy*, meaning broad, and *caulis* meaning stems, referring to the large round culms typical of this species; *cascadensis* = Named after the Cascades at Betty's Bay where this species was collected.

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***Platycaulos compressus*** (Rottb.) H.P.

Linder  
(RESTI ACEAE)

**Synonyms:** *Restio compressus* Rottb.; *Restio praefixus* Mast.

**Measurements**

Culm height: 0.8-1.0 m  
 Sheath length: 12-40 mm  
 Sheath mucro length: 2-8 mm  
 ♂ Inflorescence: 40-140 mm  
 ♂ Flower length: 2.8-3.5 mm  
 ♀ Inflorescence: 20-120 mm  
 ♀ Flower length: 3.3-5.5 mm  
 Nutlet length: 1.36-1.96 mm

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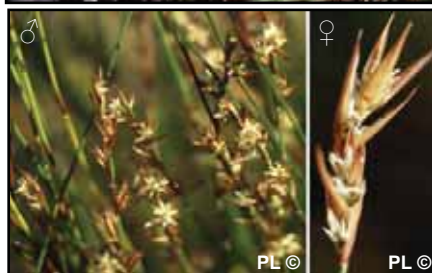
Medium, clumped to tufted, perennial. **Culms:** Green, compressed, smooth or finely wrinkled and branched. **Leaves:** Green sheath with mucro awl or needle-shaped. **Inflorescence:** Racemose. **Flowers:** ♂ spikelets 6-20, spathes persistent, shorter than or as long as spikelets; ♀ spikelets, 1-10, spathes shorter than spikelets, bracts at least twice as long as flowers. **Fruit:** White, brittle with white ornamentation; side view elliptical or round; top view round. **Altitude:** 50-1200 m. **Habitat:** Damp places and seepages in mountains along streams. **Distribution:** Found in the WC and EC from Ceres and Mamre to Tsitsikamma mountains in Fynbos biome. **General:** Endemic. **Similar species:** *P. major*, which have spikelets larger than 2.5 mm.



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**Origin:** *Platycaulos* = Greek word, *platy*, meaning broad, and *caulis* meaning stems, referring to the large round culms typical of this species; *compressus* = Latin for squeezed together; referring to the flattened culms typical of this species.





**Measurements**

Culm height: 0.2-1.0 m  
Sheath length: 3-10 mm  
Sheath mucro length: 1-3 mm  
♂ Inflorescence: 30-70 mm  
♂ Flower length: 1.5-2.5 mm  
♀ Inflorescence: 3.0-3.5 mm  
♀ Flower length: 2.0-2.5 mm  
Nutlet length: 0.80-1.16 mm

***Platycaulos depauperatus*** (Kunth)

H.P. Linder  
(*RESTIACEAE*)



**Synonyms:**



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Small, mat-forming or tangled, perennial. **Culms:** Green, compressed, ribbed, branched and zig-zag. **Leaves:** Sheath green, persistent, mucro awl- or needle-shaped, 1-3 mm long. **Inflorescence:** Racemose or sparsely paniculate. **Spikelets:** Female spikelets solitary, ovary 1-chambered. **Fruit:** Tan, brittle with white ornamental nut, side view elliptical; top view triangular. **Altitude:** 200-1200 m. **Habitat:** Usually in seeps or marshes, occasionally from damp ledges. **Distribution:** Found in the WC from Tulbagh Kloof to Stellenbosch in Fynbos biome. **General:** Endemic. **Similar species:** *P. subcompressus*.

**Origin:** *Platycaulos* = Greek word, *platy*, meaning broad, and *caulis* meaning stems, referring to the large round culms typical of this species; *pauper* = Latin for poor man.

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***Platycaulos major*** (Mast.) H.P. Linder  
(RESTIACEAE)

**Synonyms:**

**Measurements**

Culm height: 1.0-1.5 m  
 Sheath length: 25-55 mm  
 Sheath micro length: 5-12 mm  
 ♂ Inflorescence: 40-200 mm  
 ♂ Flower length: 4-5 mm  
 ♀ Inflorescence: 30-80 mm  
 ♀ Flower length: 4-6 mm  
 Nutlet length: 1.68-2.20 mm

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Medium, sprawling, perennial. **Culms:** Branched, more or less flattened, trailing through vegetation, compressed. **Leaves:** Sheaths persistent, green (particularly the young parts of the culm, with long stout awns). **Inflorescence:** Several spikelets per culm, with small spathes. **Flowers:** Spikelets, ♂ more than 2.5 mm long with 1 to several flowers each; ♀ similar to ♂ but somewhat bigger; bracts papery and longer than flowers. **Fruit:** Capsule, 1-3 chambered with white ornamented seeds. **Fruit:** White, brittle with ornamentation; side view elliptical; top view round. **Altitude:** 150-1200 m. **Habitat:** Damp places and seepages in mountains and along streams. **Distribution:** Found in the WC from Cape Peninsula to Caledon Swartberg and Humansdorp in Fynbos biome. **General:** Endemic. **Similar species:** *P. compressus*, which have smaller spikelets.



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**Origin:** *Platycaulos* = Greek word, *platy*, meaning broad, and *caulis* meaning stems, referring to the large round culms typical of this species; *ma or* = Latin for great or large; referring to the species with the largest spikelets within this genus.

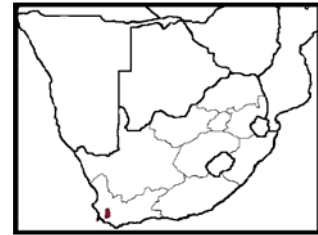


**Measurements**

Culm height: 0.1-0.4 m  
 Sheath length: 5-15 mm  
 Sheath mucro length: 1.5-2.0 mm  
 ♂ Inflorescence: 10-150 mm  
 ♂ Flower length: 1.5-2.5 mm  
 ♀ Inflorescence: 5-25 mm  
 ♀ Flower length: 2.5-3.0 mm  
 Nutlet length: 1.08-1.72 mm

***Platycaulos subcompressus***

(Pillans) H.P. Linder  
 (RESTIACEAE)



**Synonyms:**



Small, tangled, perennial. **Culms:** Green, compressed, distinctly ribbed and branched. **Leaves:** Green sheath with mucro. **Inflorescence:** Sparsely paniculate. **Flowers:** ♂ 2-20 spikelets, spathes shorter than spikelets, persistent, same size of bracts; ♀ spikelets solitary, spathes shorter than spikelet, ovary 2-chambered. **Fruit:** Brown, brittle, white ornamentation; side view elliptical; top view round. **Altitude:** 750-1500 m. **Habitat:** Marshy areas, either in seepages or along stream banks. **Distribution:** Found in the WC from Bainskloof to Elgin in Fynbos biome. **General:** Rare endemic which are often associated with *Anthochortus* tussock marshes. **Similar species:** *P. depauperatus*, which have unilocular ovaries.

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**Origin:** *Platycaulos* = Greek word, *platy*, meaning broad, and *caulis* meaning stems, referring to the large round culms typical of this species; *subcompressus* = Latin for compressed; referring to the flattened culms typical of this genus.





***Restio ambiguus*** Mast.  
(RESTIACEAE)

**Synonyms:**

**Measurements**

Culm height: 0.3-0.6 m  
 Sheath length: 9-18 mm  
 Sheath mucro length: 1-5 mm  
 ♂ Inflorescence: 20-60 mm  
 ♂ Flower length: 3.3-5.3 mm  
 ♀ Inflorescence: 20-150 mm  
 ♀ Flower length: 3-4 mm  
 Nutlet length: 0.96-1.25 mm

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Short, clumped, tangled or tufted, perennial. **Culms:** Dull-green, branched, round in cross-section. **Leaves:** Dark-brown to almost black sheaths, lower half red-brown with white speckles, pointed. **Inflorescence:** ♂ Racemose; ♀ paniculate. **Flowers:** ♂ spikelets 1-5, spathes persistent, bracts dark-brown with transverse pits; ♀ spikelets 1-5, spathes shorter than spikelets, bracts longer than flowers. **Fruit:** Brown pitted capsules with 2 chambers; side view elliptical; top view round. **Altitude:** 5-1250 m. **Habitat:** Along streams and in marshy areas. **Distribution:** Found in the WC from Cape Peninsula to Kleinrivier Mountains in Fynbos biome. **General:** Endemic often associated with sedge-grass vegetation. **Similar species:** None, species very distinct because of the dark coloured, pockmarked bracts.

**Origin:** *Restio* = Latin for rope-maker; *ambiguus* = Latin for doubtful nature or origin.



### Measurements

Culm height: 0.3-0.7 m  
Sheath length: 10-18 mm  
Sheath mucro length: 1-3 mm  
♂ Inflorescence: 20-70 mm  
♂ Flower length: 2.7-4.7 mm  
♀ Inflorescence: 10-25 mm  
♀ Flower length: 2.5-4.0 mm  
Nutlet length: 1.04-1.56 mm

## *Restio bifidus* Thunb. (RESTIACEAE)

Synonyms: None



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Small to medium, tufted, perennial; without underground or above ground creepers. **Culms:** Green, round, smooth or finely warty, erect, sparsely branched. **Leaves:** Green sheaths persistent with very short mucro. **Inflorescence:** Racemose or paniculate. **Flowers:** Few to many flowers; spikelets ♂ and ♀ similar; ridged sepals with hairs on the ridges; bracts with purple-brown bands on the side of the awn; ♂ and ♀ spikelet bracts more than twice as long as flowers; . **Fruit:** Capsules with 2 chambers, both fertile, 1 sometimes aborted. **Altitude:** 15-1525 m. **Habitat:** Seepage, swampy and other wet areas. **Distribution:** Found in the WC from Cape Peninsula to Kleinrivier Mountains, Jonkershoek and Hermanus in the Fynbos biome. **General:** Endemic. **Similar species:** *R. bifarius* and *R. exilis*.

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**Origin:** *Restio* = Latin for rope-maker; *bifidus* = Latin for split in two parts.



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***Restio brachiatus*** (Mast.) Pillans  
(RESTIACEAE)

(A: Stroompiesriet)

**Synonyms:**

**Measurements**

Culm height: 0.3-2.0 m  
 Sheath length: 10-45 mm  
 Sheath mucro length: 3-7 mm  
 ♂ Inflorescence: 25-160 mm  
 ♂ Flower length: 3.3-4.3 mm  
 ♀ Inflorescence: 15-150 mm  
 ♀ Flower length: 5.5-9.0 mm  
 Nutlet length: 1.48-1.76 mm

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Medium to large, tufted, perennial. **Culms:** Green to dull-green, branched, round, finely warty. **Leaves:** Brown, turning grey, persistent sheaths; slightly discoloured with hyaline margins; distinct reddish-brown mucro. **Inflorescence:** ♂ inflorescence paniculate; ♀ inflorescence a compound raceme. **Flowers:** ♂ spikelets numerous with few flowers per spikelet, spathes shorter than bracts; ♀ bracts shorter than flowers. **Fruit:** Seed shiny orange to pink; side view oblong; top view plano-convex; white eliasome present. **Altitude:** 245-2000 m. **Habitat:** Inland mountains along streams or in seepages. **Distribution:** Found in the WC from Ceres to Swartberg, Tulbagh and Paarl to Witteberg in Fynbos biome. **General:** Endemic forming rings around *R. confuses* marshes. **Similar species:** None.



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**Origin:** *Restio* = Latin for rope-maker; *brachiatus* = Latin for belonging to the arm.



**Measurements**

Culm height: 1-2 m  
 Sheath length: 8-35 mm  
 Sheath mucro length: 5-12 mm  
 ♂ Inflorescence: 20-110 mm  
 ♂ Flower length: 4.5-5.0 mm  
 ♀ Inflorescence: 15-90 mm  
 ♀ Flower length: 5-7 mm  
 Nutlet length: 1.4-1.64 mm

***Restio brunneus*** Pillans  
 (RESTIACEAE)



**Synonyms:**



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Medium, tufted, perennial;. **Culms:** Sparsely branched, round, smooth, speckled golden. **Leaves:** Sheaths persistent, with distinct, usually darker-coloured upper margin; long slender sharp point with spreading apices. **Inflorescence:** Racemose or paniculate. **Flowers:** Spikelets compact, many-flowered; ♂ spathes persistent, bracts as long as, or longer than flowers; ♀ spathes shorter than spikelets and persistent; bracts longer than flowers. **Fruit:** Grey, side view elliptical or oblong; top view triangular. **Altitude:** 1000-1800 m. **Habitat:** Forms dense colonies along seeps and streamlines. **Distribution:** Found in the WC in the Cedarberg Mountains in Fynbos biome. **General:** Rare endemic species. **Similar species:** *R. bolusii*.

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***Restio communis*** Pillans  
(RESTIACEAE)

**Synonyms:**

**Measurements**

Culm height: 0.3-0.6 m  
 Sheath length: 5-30 mm  
 Sheath mucro length: 5-8 mm  
 ♂ Inflorescence: 15-80 mm  
 ♂ Flower length: 3.6-4.0 mm  
 ♀ Inflorescence: 30-80 mm  
 ♀ Flower length: 3.5-4.5 mm  
 Nutlet length: 1.28-1.60 mm

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Small to medium, tangled, perennial without spreading underground or above ground rootstock. **Culms:** Green, erect and branched, round, finely warty or roughly knobbed at base. **Leaves:** Leaf-like bracts and spathes papery and translucent and often speckled. **Inflorescence:** Racemose; ♀ inflorescence solitary or paired. **Flowers:** 2-5, ♂ and ♀ bracts at least twice as long as flowers. **Fruit:** Seed shiny orange. **Altitude:** 300-500 m. **Habitat:** Seepage and damp sand localities. **Distribution:** Found in the WC in Cape Peninsula in Fynbos biome. **General:** Rare and vulnerable endemic species. **Similar species:** Similar to a new species from Hermanus.

**Origin:** *Restio* = Latin for rope-maker; *communis* = Latin for public, shared; maybe referring to the plants occurring in dense stands.



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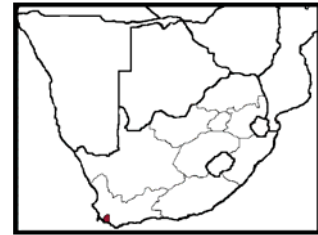




**Measurements**

Culm height: 0.3-1.0 m  
 Sheath length: 12-35 mm  
 Sheath mucro length: 5-15 mm  
 ♂ Inflorescence: 5-20 mm  
 ♂ Flower length: 3.6-4.0 mm  
 ♀ Inflorescence: 3.0-3.5 mm  
 ♀ Flower length: 3.5-3.7 mm  
 Nutlet length: 1.10-1.32 mm

***Restio confusus*** Pillans  
 (RESTIACEAE)



**Synonyms:**



**En**



Small to medium, clumped or tufted, perennial; forming large stout cushions. **Culms:** Slender, smooth, finely rugulose, erect and simple. **Leaves:** Leaf sheath hard to distinguish from culm; mucro about half sheath length. **Inflorescence:** Racemose or globose. **Flowers:** Small, globular, 2-8 per branch; ♂ spathe brown, awn overtopping the spikelet; ♀ usually 2-4 flowers per spikelet. **Fruit:** Silvery; side view oblong; top view round. **Altitude:** 450-1800 m. **Habitat:** Perennially wet swamps and along streamsides. **Distribution:** Found in the WC from Cedarberg Mountains to Kogelberg in Fynbos biome. **General:** Endemic. **Similar species:** *R. miser*, which is more mat-forming

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**Origin:** *Restio* = Latin for rope-maker; *confusus* = Latin for confused, join together.





***Restio dispar*** Mast.  
(RESTIACEAE)

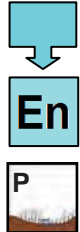
**Synonyms:** *Hypolaena conspicua* Mast.; *Restio conspicuus* (Mast.) Pillans

**Measurements**

Culm height: 1-2 m  
Sheath length: 12-40 mm  
Sheath mucro length: 0-7 mm  
♂ Inflorescence: 40-150 mm  
♂ Flower length: 3.5-4.5 mm  
♀ Inflorescence: 40-110 mm  
♀ Flower length: 7-8 mm  
Nutlet length: 2.20-3.04 mm

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Medium to large, tufted, perennial. **Culms:** Erect, sparsely branched, slightly warty, forming a woody knot at base. **Leaves:** Persistent sheaths, tightly wrapped around the stem. **Inflorescence:** Long terminal; male inflorescence are paler than female inflorescence, and shorter; Slender female inflorescence enclosed by a distinctive long red spathe, with yellow speckling, exceeding spikelets. **Flowers:** ♂ flowers distinctive and greenish-yellow. ♀ flower indistinctive, white, with 3 fluffy white styles. **Fruit:** 1-chambered ovary; shiny silvery or brown; side view ovate or elliptical; top view triangular or plano-convex. **Altitude:** 45-1525 m. **Habitat:** Occurs along streams and among rocks on mountain slopes from the Cape Peninsula and Bainskloof to Bredasdorp. **Distribution:** WC. **General:** Endemic; high tannin content make this species not a good grazing feed. Sometimes used for thatching.



**Origin:** *Restio* = Latin for rope-maker; *dispar* = Latin for dissimilar or unequal.



**Measurements**

Culm height: 0.35-1.00 m  
 Sheath length: 15-40 mm  
 Sheath mucro length: 7-20 mm  
 ♂ Inflorescence: 45-90 mm  
 ♂ Flower length: 4.0-4.5 mm  
 ♀ Inflorescence: 35-70 mm  
 ♀ Flower length: 4.0-4.5 mm  
 Nutlet length: 1.5 mm

***Restio dodii*** Thunb. var. ***dodii***  
 (RESTIACEAE)

**Synonyms:** *Hypolaena membranacea* Mast.;  
*Restio dodii* Pillans p.p.



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Small to medium, tufted, perennial. **Culms:** Erect, sparsely branched. **Leaves:** Leaf-like spathes and bracts abruptly transparent. **Inflorescence:** ♂ panicle; ♀ racemose, with 2 to many flowers. **Flowers:** Lateral sepals winged on upper half of middle ridge; lateral sepals unequal and lacerated. **Fruit:** Yellow and smooth; capsule with 1 chamber and 1 seed; side view elliptical; top view round. **Altitude:** 50-250 m. **Habitat:** Mountains and low altitude marshes, along streams, in half-shade. **Distribution:** Found in WC and EC from Cape Peninsula at Cape Point, in Fynbos biome. **General:** Rare and vulnerable endemic that co-occur with *Elegia cuspidata*. **Similar species:** *R. dodii* var. *purpurence*, which have more purple spathes and larger ♀ flowers.

**Origin:** *Restio* = Latin for rope-maker; *dodii* = Named after AH Wolley-Dod, whom was the first to collect in the Cape Peninsula, from 1896-1898.

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***Restio dodii*** Pillans var. ***purpureus***  
 Pillans.  
 (RESTIACEAE)

**Synonyms:** *Restio dodii* Pillans p.p.

**Measurements**

Culm height: 0.2-1.0 m  
 Sheath length: 15-35 mm  
 Sheath mucro length: 5-20 mm  
 ♂ Inflorescence: 45-90 mm  
 ♂ Flower length: 4-5 mm  
 ♀ Inflorescence: 30-140 mm  
 ♀ Flower length: 4.5-5.0 mm  
 Nutlet length: 1.5-2.1 mm

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Small to medium, tufted, perennial. **Culms:** Branching, smooth or finely rugulose, dull green. **Leaves:** Sheaths golden-brown with long mucro and membranous shoulders. **Inflorescence:** ♂ and ♀ paniculate. **Flowers:** ♂ and ♀ spathes and bracts longer than flowers. **Fruit:** Yellow, smooth; side view elliptical; top view round. **Altitude:** 20-100 m. **Habitat:** Plants form extensive stands in waterlogged areas or seepages. **Distribution:** WC on the Bredasdorp flats, from Koueberg in the west to the eastern Arniston flats. **General:** Rare and vulnerable endemic species. **Similar species:** *R. dodii* var. *dodii*, which have lighter spathes and smaller ♀ flowers.

**Origin:** *Restio* = Latin for rope-maker; *dodii* = Named after AH Wolley-Dod, whom was the first to collect in the Cape Peninsula, from 1896-1898.



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### Measurements

Culm height: 0.3-0.5 m  
Sheath length: 11-22 mm  
Sheath mucro length: 4-7 mm  
♂ Inflorescence: 10-60 mm  
♂ Flower length: 5.0-6.5 mm  
♀ Inflorescence: 15-40 mm  
♀ Flower length: 6.5-8.0 mm  
Nutlet length: 1.36-1.80 mm

## *Restio echinatus* Kunth. (RESTIACEAE)



### Synonyms:



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Short to medium, tufted, perennial. **Culms:** Dull green, unbranched, smooth or finely warty. **Leaves:** Sheaths closely convoluted, greenish, turning brown with mucro. **Inflorescence:** ♂ and ♀ flowers on separate plants. **Spikelets:** Floral bracts with distinct, darker-coloured upper margin; bending backwards. **Fruit:** Brown striate seed; side view oblong; top view triangular. **Altitude:** 900-1900 m. **Habitat:** Common on damp or well-drained slopes. **Distribution:** WC from Tulbagh to Wellington. **General:** Endemic. **Similar species:** None. Spikelets quite distinctive.

**Origin:** *Restio* = Latin for rope-maker; *echinatus* = Latin for hedgehog, thus armed with numerous prickles; referring to hedgehog-like ♀ spikelet.

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***Restio festuciformis*** Mast.  
(RESTI ACEAE)

(A: Groengrasriet)

**Synonyms:** *Leptocarpus parkeri* Pillans

**Measurements**

Culm height: 0.25-0.70 m  
 Sheath length: 15-45 mm  
 Sheath mucro length: 7-25 mm  
 ♂ Inflorescence: 25-80 mm  
 ♂ Flower length: 2.2-2.4 mm  
 ♀ Inflorescence: 40-110 mm  
 ♀ Flower length: 2-3 mm  
 Nutlet length: 1.12-1.52 mm

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Small, soft-tufted, perennial grass-like plant. **Culms:** Erect, sparsely branched, bright-green when young, turning golden-green when flowering. **Leaves:** Leaf bracts around inflorescences are small, golden yellow and shiny. **Inflorescence:** Large golden inflorescences distinct. Lax, with male and female inflorescences on separate plants; however little difference between male and female inflorescences. **Spikelets:** Small, inconspicuous, numerous, with long narrow bracts. **Seed:** Ripens within two months after flowering. **Altitude:** 10-765 m. **Habitat:** Damp areas in hills and on lower mountain slopes. **Distribution:** WC from Somerset West to Bredasdorp. **General:** Often found in large groups with *Elegia cuspidata* and *E. filacea*, two species that flower during different periods. Endemic. **Similar species:** None.



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**Origin:** *Restio* = Latin for rope-maker; *festuca* = a grass genus; *formis* = like; referring to the inflorescence that is like that of a grass.



**Measurements**

Culm height: 0.2-0.4 m  
 Sheath length: 4-10 mm  
 Sheath mucro length: 1.5-2.5 mm  
 ♂ Inflorescence: 10-40 mm  
 ♂ Flower length: 2.5-3.0 mm  
 ♀ Inflorescence: 5-30 mm  
 ♀ Flower length: 3.0-3.5 mm  
 Nutlet length: 1.24-1.44 mm

***Restio fragilis*** Esterh.  
 (RESTIACEAE)



**Synonyms:**



**En**



Small, weak scrambling, perennial with above-ground creeping rootstock. **Culms:** Green, slender, branched and wrinkled. **Leaves:** Sheaths green to brown with mucro. **Inflorescence:** Racemose. **Flowers:** ♂ spathes as long as spikelet, bracts shorter than flowers; ♀ spathes as long as spikelet, bracts shorter than flower, oblong, awn minute or absent. **Fruit:** Seed tan, smooth; side view elliptical; top view triangular. **Altitude:** 900-1000 m. **Wetland type:** Palustrine. **Habitat:** In marshy places or seepages. **Distribution:** Found in the WC in Langeberg Mountains at Swellendam in Fynbos biome. **General:** Endemic. **Similar species:** *R. colliculospermus*, which has spathes shorter than the ♀ spikelets; *R. decipiens*, which have more robust culms.

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**Origin:** *Restio* = Latin for rope-maker; *fragilis* = Latin for weak or feeble; referring to the plant form.





***Restio fusiformis*** Pillans  
(RESTIACEAE)

Synonyms:

**Measurements**

Culm height: 0.25-0.50 m  
 Sheath length: 5-12 mm  
 Sheath mucro length: 1-2 mm  
 ♂ Inflorescence: 15-40 mm  
 ♂ Flower length: 4.0-4.5 mm  
 ♀ Inflorescence: 10-20 mm  
 ♀ Flower length: 4.2-4.6 mm  
 Nutlet length: 1.60-1.64 mm

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Small, tufted perennial. **Culms:** Sparsely branched. **Leaves:** Leaf bracts apices slightly discoloured. **Inflorescence:** Male and female inflorescences on separate plants. **Flowers:** Numerous spikelets with few flowers per spikelet; male and female spikelets ellipsoid, sharply pointed. **Seed:** Shiny orange. **Altitude:** 450-900 m. **Habitat:** In marshes in wetland, and along stream-margins. **Distribution:** WC from Jonkershoek to Hangklip. **General:** Rare endemic species. **Similar species:** *R. filiformis*, which have one-coloured bracts and unwinged lateral perianth segments of the ♀ flower; and *R. bifurcus*.

**Origin:** *Restio* = Latin for rope-maker; *fusiformis* = Latin for swollen in the middle, and tapering to each end.



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#### Measurements

Culm height: 0.2-0.4 m  
Sheath length: 6-15 mm  
Sheath mucro length: 2-4 mm  
♂ Inflorescence: 7-17 mm  
♂ Flower length: 2.2-3.0 mm  
♀ Inflorescence: 8-12 mm  
♀ Flower length: 2.5-3.0 mm  
Nutlet length: 1.2-1.36 mm

## *Restio leptostachyus* Kunth (RESTIACEAE)

**Synonyms:** *Restio pusillus* Pillans



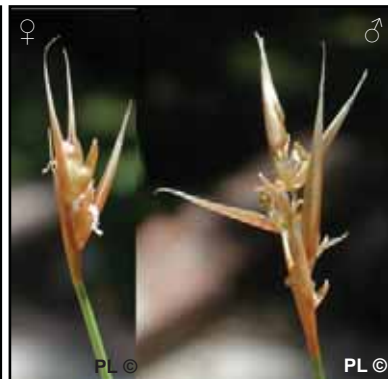
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Small, tufted perennial. **Culms:** Erect and nodeless. **Leaves:** Leaf bracts, taller than flowers. **Inflorescence:** Male and female inflorescences on separate plants. **Flowers:** Female spikelets solitary, bracts sharply pointed, with bristle-like hairs. **Altitude:** 60-1800 m. **Habitat:** Restricted to marshy or wet areas; most common habitat is on wet rock ledges. **Distribution:** Found in the WC from Caledon to Paarl in Fynbos biome. **General:** Endemic. **Similar species:** None, distinct by the oblique flowers and extended internodes in the spikelets.

**Origin:** *Restio* = Latin for rope-maker; *leptos* = Latin for fine, slender; *stachys* = Greek for spike; referring to slender spike.

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***Restio miser*** Kunth  
(RESTIACEAE)

**Synonyms:**

**Measurements**

Culm height: 0.2-0.6 m  
 Sheath length: 10-25 mm  
 Sheath mucro length: 2-3 mm  
 ♂ Inflorescence: 15-40 mm  
 ♂ Flower length: 3.0-3.5 mm  
 ♀ Inflorescence: 7-20 mm  
 ♀ Flower length: 3.0-3.5 mm  
 Nutlet length: 1.16-1.44 mm

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Small to medium, tufted, perennial. **Culms:** Slender, erect and simple. **Leaves:** Dull green sheaths convoluted, mucro 2-3 mm long; difficult to distinguish from culm. **Inflorescence:** Racemose. **Flowers:** Numerous small, globular spikelets; male and female similar, clustered along culm. **Fruit:** Silvery, colliculate; side view oblong; top view rectangular. **Altitude:** 800-1600 m. **Habitat:** Forms large monospecific stands in perennial wet mountain bogs and seepages. **Distribution:** Found in the WC from Clanwilliam to Hottentots Holland Mountains in Fynbos biome. **General:** Endemic. **Similar species:** *R. communis*, which have thicker culms, have more than 1 flower per spikelet and the bracts are not as sharply pointed.



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**Origin:** *Restio* = Latin for rope-maker; *miser* = Latin for miserable, wretched, unhappy or pitiable.



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### Measurements

Culm height: 0.4-0.6 m  
Sheath length: 6-20 mm  
Sheath mucro length: 2-4 mm  
♂ Inflorescence: 8-45 mm  
♂ Flower length: 2.0-2.5 mm  
♀ Inflorescence: 6-45 mm  
♀ Flower length: 3-4 mm  
Nutlet length: 0.84-1.56 mm

## *Restio montanus* Esterh. (RESTIACEAE)



### Synonyms:

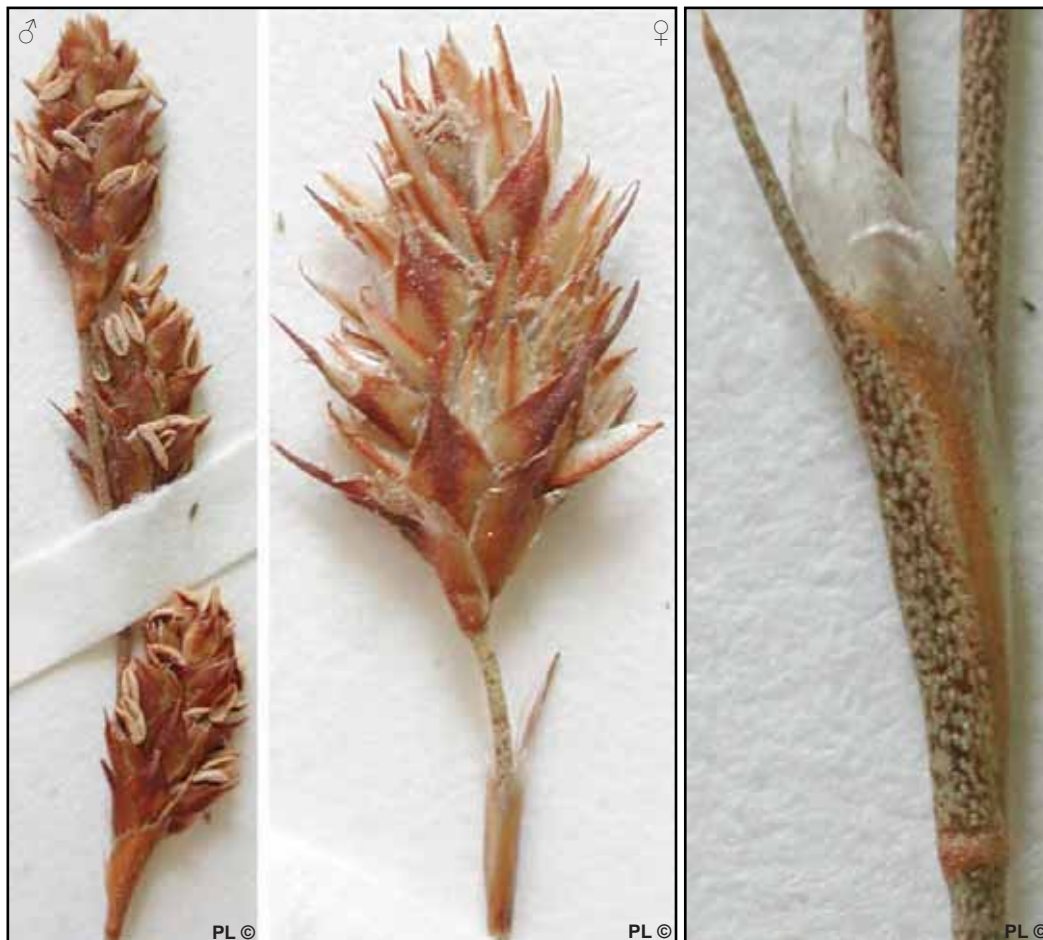


Small, tufted to sprawling, perennial. **Culms:** Much branched towards apices, tangled, roughly wart-like. **Leaves:** Leaf sheaths loosely rolled up lengthwise. **Inflorescence:** Racemose. **Flowers:** ♂ spathes shorter than spikelets, similar to sheaths, with large membranous shoulders, bracts taller than flowers; ♀ spathes shorter than spikelets, bracts longer than flowers, apical margin with honeycombed cells. **Fruit:** Brown, side view elliptical; top view triangular. **Altitude:** 1200-1500 m. **Habitat:** Cliff seeps below high cliffs. **Distribution:** Found in the WC in Slanghoek Mountains. **General:** Critically rare endemic species. **Similar species:** *R. tuberculatus*, which have tubercles all over the plant, and an awn more than 1/3 of the length of the sheath; *R. multiflorus*, which have similar spikelet shape and cilia on the upper margin of the female bracts.



**Origin:** *Restio* = Latin for rope-maker; *montanus* = Latin for of mountains or found in the mountains.

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***Restio nodosus*** Pillans  
(RESTIACEAE)

**Synonyms:**

**Measurements**

Culm height: 0.2-0.4 m  
 Sheath length: 5-15 mm  
 Sheath mucro length: 1-3 mm  
 ♂ Inflorescence: 7-10 mm  
 ♂ Flower length: 3.0-3.5 mm  
 ♀ Inflorescence: 7-11 mm  
 ♀ Flower length: 3.5-4.2 mm  
 Nutlet length: 1.2-1.3 mm

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Small, mat forming or tangled, tufted, perennial. **Culms:** Sparingly branched, finely to roughly warty. **Leaves:** Sheaths shiny dark brown to grey, upper 1/3 in colour abruptly different from the base. **Inflorescence:** Single spikelets in ♂ and ♀ inflorescence. **Flowers:** Spikelets roundish, solitary, floral bract tips crisped and black. **Fruit:** Brown, smooth; side view elliptical; top view triangular. **Altitude:** 1200-1920 m. **Habitat:** Seasonally wet flushes over bedrock, in small gullies and in seepages or on ledges. **Distribution:** Found in the WC at Worcester in the Hex River Mountains in Fynbos biome. **General:** Rare endemic species. **Similar species:** *R. bolusii*, which do not have round spikelets and are taller, and grow in a different habitat.



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**Origin:** *Restio* = Latin for rope-maker; *nodosus* = Latin for full of knots; referring to the round spikelets.



**Measurements**

Culm height: 0.30-0.45 m  
 Sheath length: 7-20 mm  
 Sheath mucro length: 1-2 mm  
 ♂ Inflorescence: 10-70 mm  
 ♂ Flower length: 4.0-4.5 mm  
 ♀ Inflorescence: 10-30 mm  
 ♀ Flower length: 4-5 mm  
 Nutlet length: 1.32-1.52 mm

***Restio nuwebergensis*** Esterh.  
 (RESTIACEAE)



**Synonyms:**



**En**

**P**

Small, inconspicuous, tufted, perennial; without spreading underground or above-ground rootstock. **Culms:** Dull green, unbranched, smooth or finely warty. **Leaves:** Dull green to brown with mucro. **Inflorescence:** Racemose. **Flowers:** Spikelets with numerous back-bending bracts. **Altitude:** 800-1000 m. **Habitat:** Marshy places where little plant growth is found. **Distribution:** Found in the WC in Hottentots Holland Mountains in Fynbos biome. **General:** Rare and vulnerable endemic species. **Similar species:** *R. nodosus*, which have looser sheaths and smaller spikelets; and *R. obscures*, which have smaller spikelets with less flowers per spikelet.

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**Origin:** *Restio* = Latin for rope-maker; *nuweberg* = One of the names for the mountains between Elgin and Jonkershoek, based on the name of the forest station on the inland slopes.





***Restio occultus*** (Mast.) Pillans  
(RESTI ACEAE)

**Synonyms:** *Hypolaena schlechteri* Mast.; *Restio schlechteri* (Mast.) Pillans; *Thamnochortus occultus* Mast.

**Measurements**

Culm height: 1.0-1.5 m  
Sheath length: 8-40 mm  
Sheath mucro length: 1-3 mm  
♂ Inflorescence: 40-150 mm  
♂ Flower length: 2.5-4.0 mm  
♀ Inflorescence: 20-70 mm  
♀ Flower length: 4.5-6.0 mm  
Nutlet length: 1.2-1.7 mm

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Medium to large, tufted perennial; without spreading underground or above-ground rootstock. **Culms:** Dull green, sparingly branched, smooth or finely warty. **Leaves:** Brown sheath close around culm with mucro. **Inflorescence:** ♂ inflorescence paniculate; ♀ inflorescence paniculate or racemose. **Flowers:** Numerous, distinctly hanging down spikelets in both ♂ and ♀ plants. **Fruit:** Tan coloured seed; side view oblong; top view round or triangular; elaiosome present. **Altitude:** 700-1600 m. **Habitat:** Colonies found in places with groundwater and common along stream-margins, where plants hang over streams. **Distribution:** Found in the WC from Cedarberg to Hottentots Holland and Witteberg in Fynbos biome. **General:** Endemic. **Similar species:** None, distinctive by the hanging spikelets.

**Origin:** *Restio* = Latin for rope-maker; *occultus* = Latin for to hide or conceal.



En



**Measurements**

Culm height: 0.5-1.0 m  
 Sheath length: 10-30 mm  
 Sheath mucro length: 2-6 mm  
 ♂ Inflorescence: 30-75 mm  
 ♂ Flower length: 4-5 mm  
 ♀ Inflorescence: 16-60 mm  
 ♀ Flower length: 7.0-8.5 mm  
 Nutlet length: 1.2-1.8 mm

***Restio pachystachyus* Kunth.**  
 (RESTIACEAE)



**Synonyms:** *Restio dimorphostachyus* Mast.;  
*Restio furcatus* Mast.



Medium, tufted, perennial; without under-ground or above-ground spreading rootstock. **Culms:** Dull-green, smooth, sparsely branched. **Leaves:** Sheaths close around culm, two-coloured. **Inflorescence:** ♂ inflorescence racemose or paniculate; ♀ inflorescence racemose. **Flowers:** Female spikelets with sharp pointed bracts. **Fruit:** Silvery or brown; side view elliptical or oblong; top view triangular. **Altitude:** 250-1800 m. **Habitat:** Streambanks or valley seeps, associated with rocky habitats. **Distribution:** Found in the WC from Ceres to Caledon in Fynbos biome. **General:** Endemic. **Similar species:** *R. bolusii*, which are not so sharply pointed.



**Origin:** *Restio* = Latin for rope-maker; *pachys* = Greek for thick, stout; *stachys* = Greek for spike; referring to the almost round spikelets.

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***Restio purpurascens*** Mast.  
(RESTIACEAE)

**Synonyms:**

**Measurements**

Culm height: 0.3-1.8 m  
 Sheath length: 15-35 mm  
 Sheath mucro length: 4-10 mm  
 ♂ Inflorescence: 25-80 mm  
 ♀ Flower length: 3.9-4.5 mm  
 ♂ Inflorescence: 25-110 mm  
 ♀ Flower length: 4.4-5.0 mm  
 Nutlet length: 1.52-1.68 mm

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Medium, tufted, perennial, without spreading underground or above-ground rootstock. **Culms:** Erect, compressed, finely to roughly warty and branched. **Leaves:** Densely papillate, reddish sheaths close to culm with mucro, distinctively papillate. **Inflorescence:** ♂ inflorescence racemose or paniculate; ♀ inflorescence racemose. **Flowers:** Spikelets with purplish bracts; ♂ spathes shorter, or as long as, spikelets; ♀ spathes as long as or longer than spikelets. **Fruit:** Smooth, yellow seed; side view elliptical; top view triangular. **Altitude:** 200-1300 m. **Habitat:** Common in seepages and sometimes marshy areas. **Distribution:** Found in the WC from Wellington to Cape Peninsula and Caledon in Fynbos biome. **General:** Endemic. **Similar species:** *R. dispar*, which have female flowers 7-10 mm long, and unilocular ovaries.



**Origin:** *Restio* = Latin for rope-maker; *purpuratus* = Latin for clad in purple; referring to the colour of the sheaths.





**Measurements**

Culm height: 0.2-0.4 m  
 Sheath length: 7-16 mm  
 Sheath mucro length: 2-4 mm  
 ♂ Inflorescence: 8-15 mm  
 ♂ Flower length: 3.0-3.3 mm  
 ♀ Inflorescence: 7-14 mm  
 ♀ Flower length: 2.7-4.0 mm  
 Nutlet length: 1.00-1.25 mm

***Restio rarus*** Esterh.  
 (RESTIACEAE)



**Synonyms:**



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Small to medium, tufted, perennial; without spreading underground or above-ground rootstock. **Culms:** Dull green, branched, finely wart-like and wrinkled. **Leaves:** Pale brown sheaths, close around the culm with mucro. **Inflorescence:** Usually a single terminal spikelet. **Flowers:** ♂ spathes persistent and like floral bracts, which is twice as long as flowers and sharply pointed; ♀ spathes shorter than spikelets, bracts at least twice as long as flowers. **Fruit:** Smooth grey; side view elliptical; top view round or plano-convex. **Altitude:** 1300-1650 m. **Habitat:** Locally frequent in marshy or seepage spots, as well as on rock flushes. **Distribution:** Found in the WC in Klein Swartberg in Fynbos biome. **General:** Critically rare endemic species known from a single population. **Similar species:** *R. leptostachyus*, which have unilocular ovaries.

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**Origin:** *Restio* = Latin for rope-maker; *rarus* = Latin for rare, infrequent; referring to its rarity it is strictly speaking solitary and not infrequent.





***Restio sarocladus*** Mast.  
(RESTIACEAE)

**Synonyms:** *Restio tabularis* Pillans

**Measurements**

Culm height: 0.3-0.5 m  
 Sheath length: 13-25 mm  
 Sheath mucro length: 2-7 mm  
 ♂ Inflorescence: 20-60 mm  
 ♂ Flower length: 2.5-4.0 mm  
 ♀ Inflorescence: 10-60 mm  
 ♀ Flower length: 3.2-3.8 mm  
 Nutlet length: 1.28-1.84 mm

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Small to medium, tangled, perennial; with aboveground rootstock. **Culms:** Obscurely wrinkled and branched. **Leaves:** Leaf sheaths with mucro. **Inflorescence:** Racemose; ♂ inflorescence rarely paniculate. **Flowers:** Floral bracts narrowly lanceolate, papery, uniform in colour and sharply pointed. **Fruit:** Smooth, tan coloured seed; side view elliptical; top view triangular. **Altitude:** 100-1370 m. **Habitat:** Marshes or streambanks. **Distribution:** Found in the WC from Cape Peninsula and Paarl to Kleinrivier Mountains in Fynbos biome. **General:** Endemic. **Similar species:** *R. vallis-simius*, *R. e uncidus* and *R. corneolus*.



En



**Origin:** *Restio* = Latin for rope-maker; *saron* = Greek for broom; *clados* = Latin for branch.



### Measurements

Culm height: 0.18-0.40 m  
Sheath length: 6-20 mm  
Sheath mucro length: 1-5 mm  
♂ Inflorescence: 30-80 mm  
♂ Flower length: 2-3 mm  
♀ Inflorescence: 5-80 mm  
♀ Flower length: 2.5-4.0 mm  
Nutlet length: 1.0-1.4 mm

## *Restio stereocaulis* Mast. (RESTIACEAE)



### Synonyms:



Small, tangled, perennial. **Culms:** Dull-green, compressed, simple or sparsely branched, compressed, smooth or finely rugulose. **Leaves:** Brown sheaths close around culm with mucro. **Inflorescence:** Sparsely paniculate. **Flowers:** ♂ spathes persistent and shorter than spikelet, bracts as long as flowers; ♀ spathes shorter than spikelets, bracts shorter than flowers. **Fruit:** Silvery or white with small humps; side view elliptical; cross section round. **Altitude:** 600-1200 m. **Habitat:** Plants form dense masses in marshes, marshy streambanks, marshy slopes and dripping ledges. **Distribution:** Found in the WC in Franschhoek Mountains in Fynbos biome. **General:** Endemic. **Similar species:** *R. subtilis*, which have smaller flowers and unbranched culm.

**Origin:** *Restio* = Latin for rope-maker; *stereo* = Latin for two; *caulos* = Greek for stem; referring to the flattened (two-sided) culms.

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***Restio strobilifer*** Kunth.  
(RESTI ACEAE)

**Synonyms:** *Restio sparsus* Mast.

**Measurements**

Culm height: 0.4-1.0 m  
 Sheath mucro length: 3-7 mm  
 ♂ Inflorescence: 15-90 mm  
 ♂ Flower length: 4.0-4.5 mm  
 ♀ Inflorescence: 20-70 mm  
 ♀ Flower length: 6.0-7.5 mm  
 Nutlet length: 1.32-2.08 mm

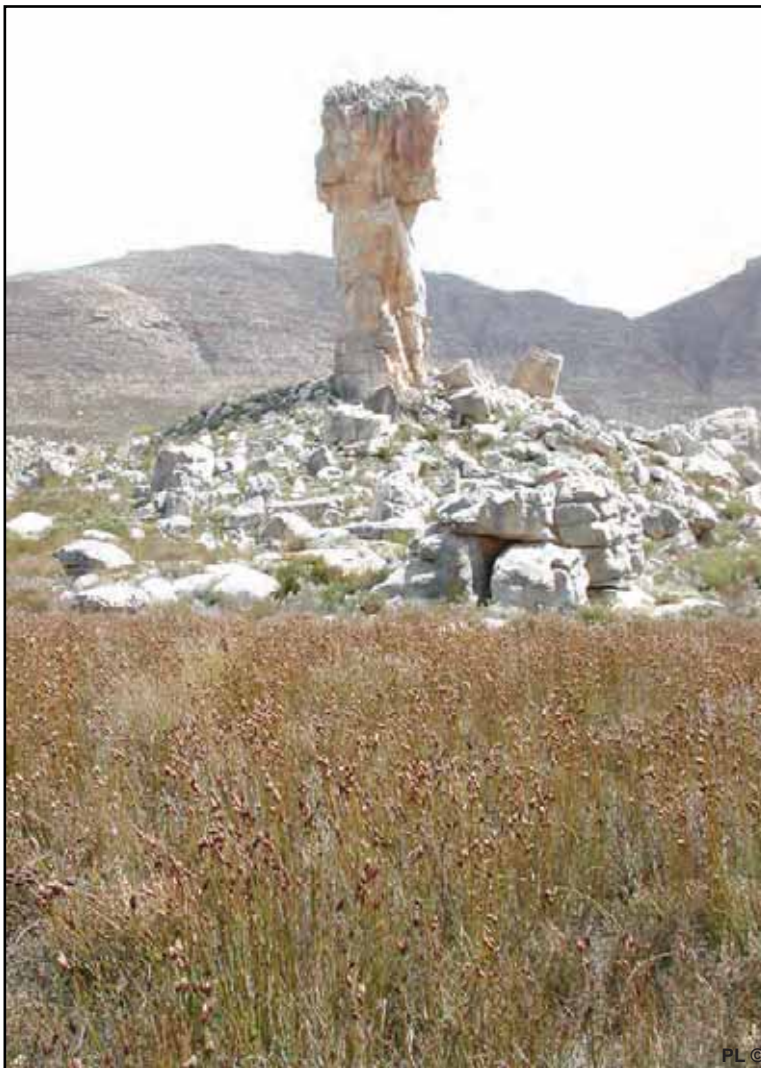
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Small to medium, tufted, perennial; without spreading underground and above-ground rootstock. **Culms:** Green, sparsely branched, smooth or finely warty. **Leaves:** Dark brown to ageing grey with hyaline shoulders with mucro. **Inflorescence:** ♂ inflorescence sparsely paniculate or racemose; ♀ inflorescence sparsely paniculate. **Flowers:** Spikelets ellipsoid, sharply pointed, solitary or paired. **Altitude:** 350-1980 m. **Habitat:** Stream-line, watercourses or seepages. **Distribution:** Found in the WC from Seder Mountains to Klein Swartberg in Fynbos biome. **General:** Endemic. **Similar species:** *R. bolusii*, which do not have an acute spikelet apex; also very close to *R. isignis*.

**Origin:** *Restio* = Latin for rope-maker; *strobilus* = Latin for spinning top; referring to the spindle-shaped female spikelet.



En



**Measurements**

Culm height: 0.15-0.30 m  
 Sheath length: 5-12 mm  
 Sheath mucro length: 2-6 mm  
 ♂ Inflorescence: 12-30 mm  
 ♂ Flower length: 2-3 mm  
 ♀ Inflorescence: 6-20 mm  
 ♀ Flower length: 2.5-3.3 mm  
 Nutlet length: 1.2-1.7 mm

***Restio verrucosus*** Esterh.  
 (RESTIACEAE)



**Synonyms:**



**En**



Small, tufted and tangled perennial. **Culms:** Fine slender, much branched, roughly and unevenly wart-like. **Leaves:** Pale brown sheaths, finely tuberculate with mucro. **Inflorescence:** Racemose. **Flowers:** Spikelets with 1 or few flowers. **Fruit:** Brown or grey with small round humps; side view oblong; top view triangular or rectangular. **Altitude:** 450-600 m. **Habitat:** Marshy ground on shale band and in seepages above wet marsh area. **Distribution:** Found in the WC in Houwhoek Mountains in Fynbos biome. **General:** Vulnerable endemic. **Similar species:** Rather distinctive species that may be related to *R. wartbergensis*.

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**Origin:** *restis* = a rope or cord and refers to early use of restios; *verrucosus* = warty; referring to the roughly warty culms.





***Restio zuluensis*** H.P. Linder  
(RESTIACEAE)

(A: Zululandriet)

**Synonyms:**

**Measurements**

Culm height: 0.2-0.4 m  
Sheath length: 7-12 mm  
Sheath mucro length: 2.0-3.5 mm  
♂ Inflorescence: 10-15 mm  
♂ Flower length: 3 mm  
♀ Inflorescence: 10-15 mm  
♀ Flower length: 3.0-3.5 mm  
Nutlet length: 1.00-1.04 mm

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Small, tufted, perennial, with creeping underground rootstock. **Culms:** Solid, round and branching; about 9.5 mm in diameter, evenly spaced, smooth or finely rugulose. **Leaves:** Pale brown sheaths with fine red speckling, upper margin translucent with mucro. **Inflorescence:** Usually a single terminal spikelet. **Flowers:** ♂ spathes at least twice as long as spikelet, bracts twice as long as flowers; ♀ spathes shorter than spikelet, bract at least twice as long as flowers. **Fruit:** Smooth, tan coloured; side view elliptical; top view plano-convex. **Altitude:** 5-50 m. **Habitat:** In seasonally waterlogged swamps and marshy areas. **Distribution:** EC and KZN. **General:** Vulnerable endemic species. The only restio found in subtropical climate. **Similar species:** None, seem to be an isolated tropical restoid.



En



**Origin:** *restis* = a rope or cord and refers to early use of restios; *uluensis* = from Zululand



Measurements	
Culm height:	0.3-1.0 m
Sheath length:	10-35 mm
Sheath mucro length:	2-10 mm
♂ Inflorescence:	30-100 mm
♂ Flower length:	3-4 mm
♀ Inflorescence:	20-100 mm
♀ Flower length:	6-8 mm
Nutlet length:	6-8 mm

***Willdenowia humilis*** Mast.  
(RESTIACEAE)

**Synonyms:** *Hypodiscus dodii* Mast.



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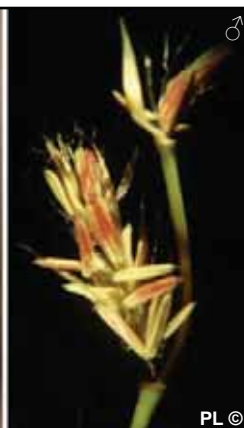


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Small, tufted, perennial, with spreading underground rootstock. **Culms:** Unbranched, slender, finely warty, or finely rugulose, dull green or speckled golden. **Leaves:** Brown sheaths with yellowish borders with mucro. **Inflorescence:** ♂ inflorescence paniculate; ♀ inflorescence linear or racemose. **Flowers:** Female spikelets closely pressed to leafless flower stalk. **Fruit:** Green nut, cap with several rows of ridges; without elaiosome; side view oblong; top view round. **Altitude:** 20-1400 m. **Habitat:** Moist sand. **Distribution:** Found in the WC from Clanwilliam to Cape Peninsula in Fynbos biome. **General:** Endemic. **Similar species:** None, very distinct species, in particular the cylindrical, greenish nut with up-pointed lobes covering the surface.

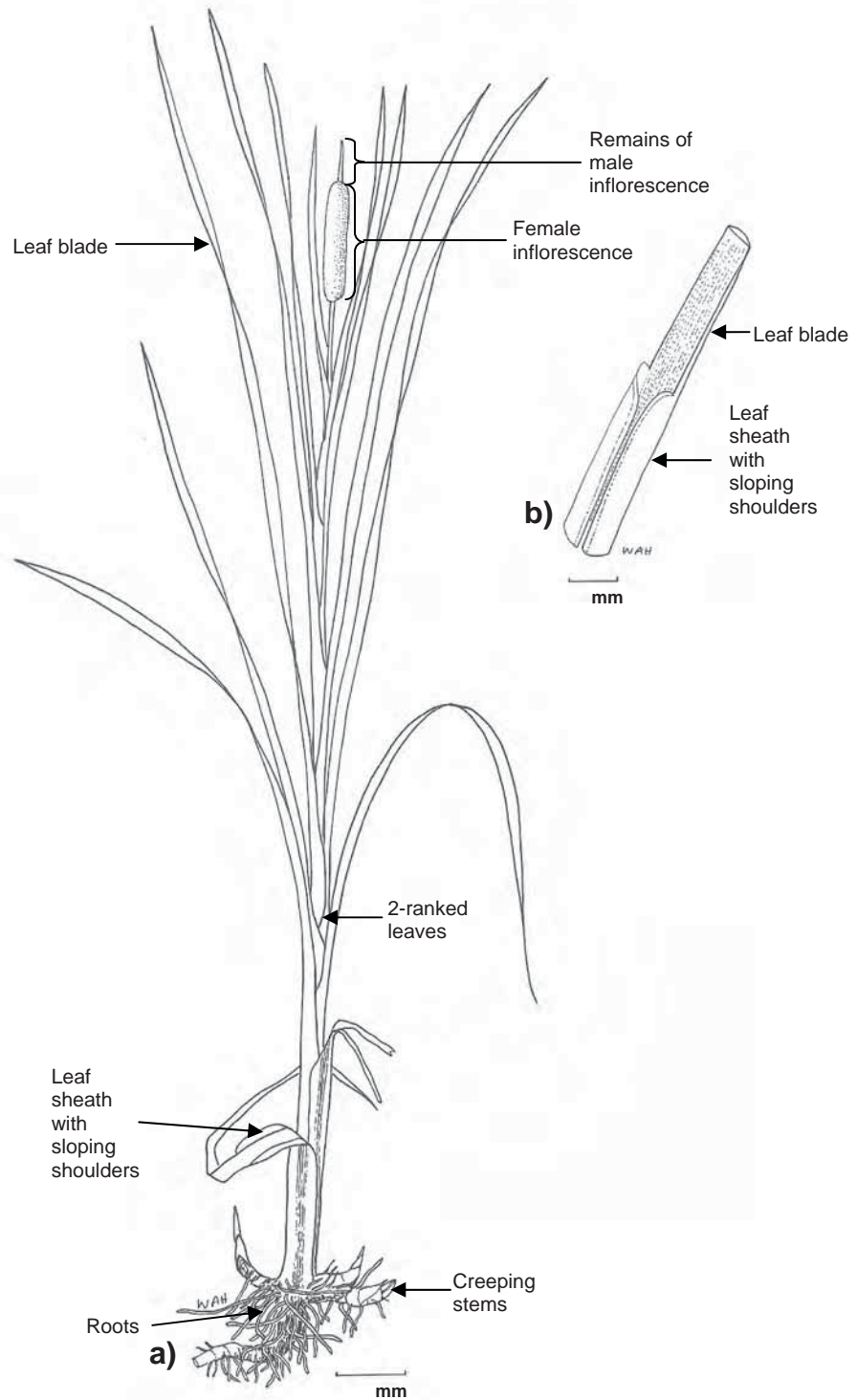
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**Origin:** *Willdenowia* = Named after the German botanist and physician, Karl Ludwig Willdenow (1765-1812), professor of Botany and director of the Berlin Botanical Garden; *humilis* = Latin for low, low-growing.









Line illustrations of a *Typha capensis* showing the typical characteristics of the *Typhaceae*. a) Complete plant showing the rootstock, leaf base, leaf coordination, flower stem and terminal female flower, and b) the change from leaf sheath to leaf blade.

# ***YP ACEAE***

## **( LR SHES)**



Typha is a cosmopolitan species of which  $\pm$  8 species occur worldwide,  $\pm$  2 species are found in South Africa.

### **Distribution**

Found throughout South Africa.

### **Descriptive characteristics**

Perennial herbs with creeping stems and linear, 2-ranked leaves. The flowers are small, unisexual and arranged in dense cylindrical spikes. The female flowers are arranged in the dark brown cigar-shaped portion. The male flowers are arranged in the upper, more slender and paler portion.

### **Habitat**

The species are known to occur in a wide variety of aquatic and wetland habitats. The young plants are submerged and the adults vary from being emergent aquatics to terrestrial plants. It often forms large dense dominant stands. Pollination is wind driven and has led to these species being widely distributed throughout South Africa. Further distribution is promoted through the movement of fish and animals.

### **Notes**

#### **ses**

These plants have numerous uses:

Roots: The under-ground rootstock is used as a source of starch. It can, however, be caustic and can cause increased urine passing. It is used in traditional, medicines to enhance fertility and potency, and to improve circulation.

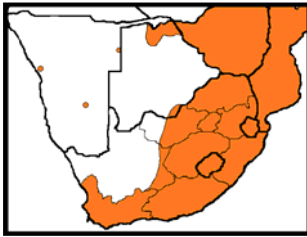
Flowers: Immature flowerheads is used as food.

Leaves: Leaves are used to weave mats and roofs.

Environmental: The large dominant stands create a wonderful refuge for wildlife, like birds and animals.

### **Problems**

It can become a problem in irrigation systems, as it blocks the systems and prevent water from reaching the final irrigable lands. It can even block up navigable water.



***Typha capensis*** (Rohrbach) N.E. Brown

(E: Bulrush; A: Papkuil, Matjiesriet; SS: Motsilla; : Incongolo, Umkhanzi; Sw : lbhuma)

**Synonyms:** *Typha latifolia* L.; *Typha latifolia* L. subsp. *capensis* Rohrb.

**Measurements**

Culm height: ± 2.0 m  
 Leave length: 40-150 mm  
 Leave width: 4-20 mm  
 ♂ Inflorescence: 150-300 mm  
 ♀ Inflorescence: 140-440 mm  
 ♀ Inflorescence width: 14-23 mm  
 Gap between ♂ & ♀: 0-2 mm

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Robust, underground creeping, perennial plant. **Stem:** Erect, simple, terminated by dense cylindrical flower spike. **Leaves:** Sheathing leaf. **Inflorescence:** Long spike with upper male & lower female flowers. **Flowers:** Male flower yellowish; female flower velvety dark brown. **Fruit:** Tiny fluffy wind dispersed seeds. **Altitude:** 1000-1800 m. **Habitat:** Along watercourses, in marshy areas. **Distribution:** Widespread in WC, EC, KZN, FS, MP, LP, NW, GA and NC in Grassland biome; also in Botswana, Lesotho, Namibia and Swaziland. **General:** Leaves used as thatch, for mats and baskets and nesting material for birds. Traditionally used to treat venereal diseases, diarrhoea, urinary problems, bleeding, swelling and as aid in expelling afterbirth. Seed used to stuff pillows. **Similar species:** *T. domingensis*.

**Origin:** *Typha* = Cat's tail; *capensis* = From the Cape.



### Measurements

Culm height: ± 5.0 m  
Leave length: 300-4000 mm  
Leave width: 3-16 mm  
♂ Inflorescence: 170-400 mm  
♀ Inflorescence: 50-350 mm  
♀ Inflorescence width: 14-22 mm  
Gap between ♂ & ♀: 10-90 mm

## *Typha domingensis* Persoon (TYPHACEAE)

(EA: Southern cattail)

**Synonyms:** *Typha australis* Schumach.

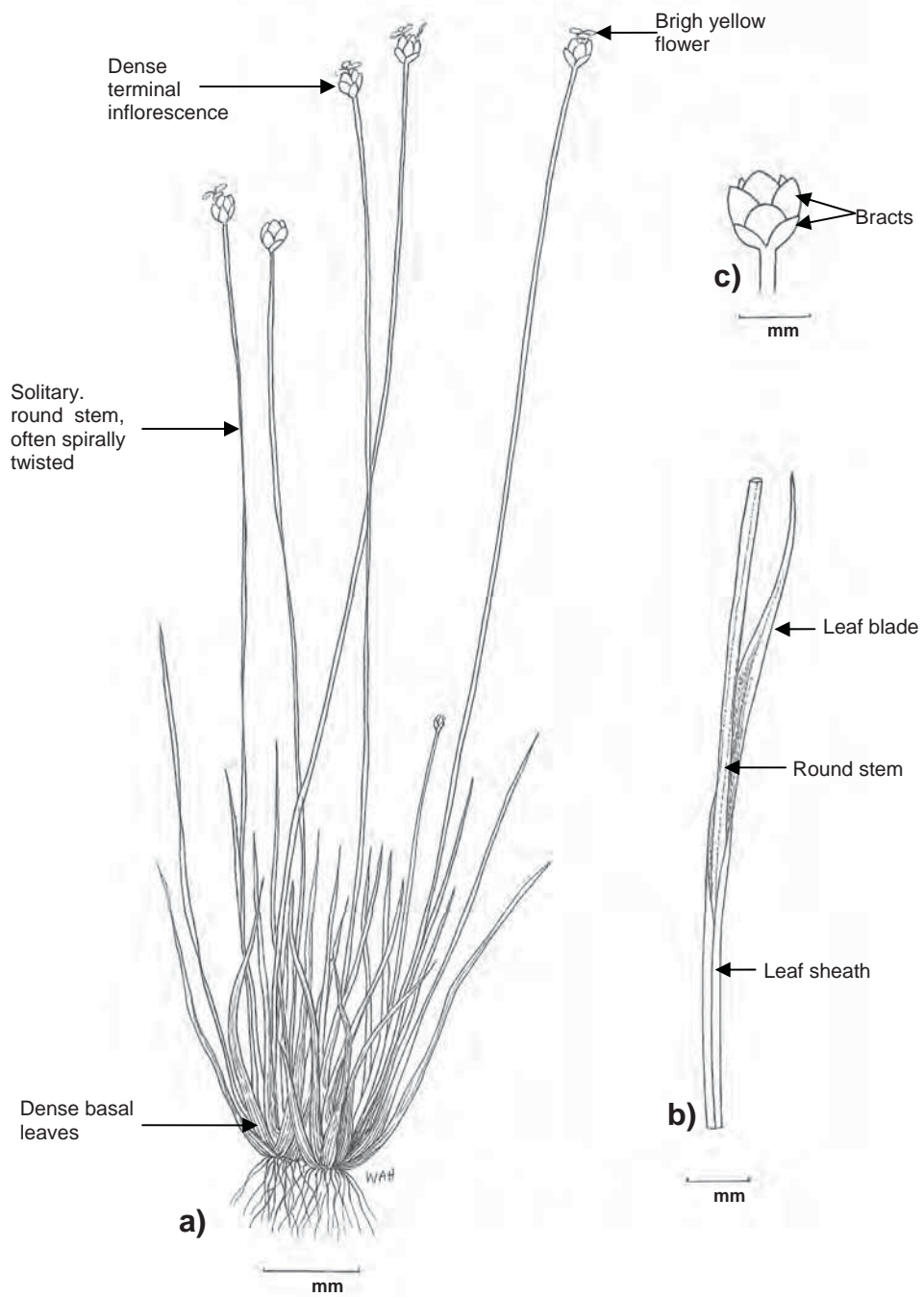


Large, robust, underground creeping, perennial plant. **Stem:** Erect, simple, terminated by dense cylindrical flower spike. **Leaves:** Sheathing with sloping scarious-margined shoulders, sloping leaves with purple spots inside and at base. **Inflorescence:** Long spike; upper male & lower female flowers. **Flowers:** Light-cinnamon brown male flower, considerable longer than the female spike and with a gap of 10-30 mm between male and female spike, rarely contiguous; velvety dark brown female flower. **Fruit:** Tiny fluffy wind dispersed seeds. **Altitude:** 900-1900 m. **Habitat:** Often dominant in fresh and brackish marshes, backwaters, lagoons, pools and along water courses. **Distribution:** Occur in KZN, GA, NW and WC; also in Botswana and Namibia. **General:** Leaves used to thatch, making mats and baskets; birds to build nests. Traditionally used to treat venereal diseases, diarrhoea, urinary problems, bleeding, swelling and as aid in expelction of afterbirth. Seed used to stuff pillows. **Similar species:** *T. capensis*.



**Origin:** *Typha* = Cat's tail; *domingensis* == From the Caribbean Island, Santo Domingo.





Line illustrations of a *Xyris capensis* showing the typical characteristics of the *Xiridaceae*.  
 a) Complete plant showing the roots, leaves, stem and inflorescence, b) close-up of the leaf sheath, blade with flower stem protruding, and c) close-up of the inflorescence, showing the persistent bracts.

# **YR ACEAE**

## **( yellow-eyed grasses)**



The yellow-eyed grass family, consist of 5 genera, which include ± 250 cosmopolitan species. Of which ±10 species are found in South Africa. The species has not been studied extensively in South Africa, therefore, the number of species may change in future.

### **Distribution**

The species are found throughout South Africa in the WC, EC, FS, KZN, MP, LP, NW, GA and NC.

### **Descriptive characteristics**

The plants are annual or perennial, tufted, rush-like herbs. The basal leaves are arranged in 2 rows and are often spirally, twisted. The leaf blades are simple, linear or thread-like. The inflorescence is a simple terminal head on an elongated naked flowerstem. The flowers has 3 bright yellow, almost free petals. White, blue and purple flowers are known to occur.

### **Habitat:**

Most of the species are found in marshy or wet areas. They grow seasonally submerged during the wetter periods. The plants are pollinated by insects. The petals usually whither by midday. Seed dispersal is not known.

### **ses:**

Some of the species are used in South Africa in medicine, and some are cultivated as decorations.

### **Notes:**

The plants are often overlooked, as they are quite inconspicuous when not flowering, and the remaining flowerheads are reminiscent of the sedges.



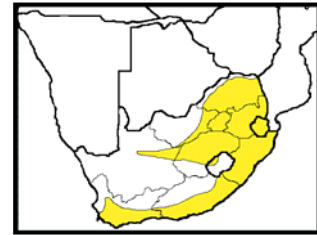
### Measurements

Stem height: 0.07-0.91 m  
Leaf length: 4-400 mm  
Leaf width: 0.1-4.0 mm  
Inflorescence: 5 mm  
Capsule length: 2.5-6.0 mm  
Seed length: ± 0.3 mm

## *Xyris capensis* Thunberg (XYRI ACEAE)

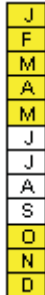
(E: Yellow-eyed grass; SS: Hloho-tsa-makaka, Kaka-hlothoana; : Udoyi oluncane)

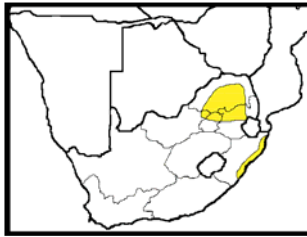
### Synonyms:



Small, terrestrial, to sub-aquatic, annual to perennial plant. **Stem:** Round in cross section sometimes with longitudinal ridges; spiral. **Leaves:** Bases brownish, not persistent; blades flat or thread-like in dwarf plants. smooth, margins slightly thickened. **Inflorescence:** Simple, terminal head, borne on a naked elongated stem. **Flowers:** Yellow, 3 petal leaves; spur ± 1.5 times as long as lower lip. **Seed:** Ellipsoid; with 12-16 longitudinal ridges joined by prominent cross walls. **Altitude:** 0-1350 m. **Habitat:** Found in open wet places, marshes, river banks and seepage areas in hills; also sometimes in salt pans. **Distribution:** WC, EC, KZN, FS, MP, LP, NW and GP; also in Botswana, Lesotho, Namibia and Swaziland. **General:** Variable and widespread species. **Similar species:** *X. huilensis*, which has heads smaller than 4-5 mm.

**Origin:** *Xyris* = Greek for razor; *capensis* = From the Cape.





***Xyris congensis*** Büttner  
(XYRI ACEAE)

**Synonyms:** *X. umbilonis* L.A. Nilsson; *X. batokana* N.E. Brown, *X. baumii* L.A. Nilsson

**Measurements**

Stem height: 0.25-0.80 m  
Leaf length: 170-600 mm  
Leaf width: 1-6 mm  
Inflorescence: 8-10 mm  
Capsule length: 3.0-4.5 mm  
Seed length: ± 0.25 mm

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Tufted terrestrial, perennial plant. **Stem:** Twisted and thread-like. **Leaves:** Clustered on compact rhizome; bases reddish-brown, splitting, persisting as bristles; blades stiff, flat, sometimes twisted. **Inflorescence:** Raceme with 1-6 flowers. **Flowers:** Violet, lilac or sometimes white; seldom yellow; upper lip yellowish; spur ± 1.5 times as long as lower lip. **Seed:** Transversely ellipsoid, ± 0.25 mm long. **Altitude:** 10-1700 m. **Habitat:** Found in seasonally flooded areas, wet places usually in sandy or peaty soil and among mosses on wet rocks and along streams. **Distribution:** WC, EC, KZN, MP, LP, GP and NC; also in Botswana, Lesotho and Namibia. **General:** Indigenous species found from India, Madagascar, Angola and in southern Africa. **Similar species:** *X. natalensis*.

**Origin:** *Xyris* = Greek for razor; *congensis* = From the Congo.



CJC ©



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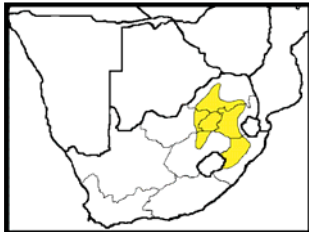
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**Measurements**  
 Stem height: 0.16-0.55 m  
 Leaf length: 200-350 mm  
 Leaf width: ± 1 mm  
 Inflorescence: ± 7 mm  
 Capsule length: Unknown  
 Seed length: Unknown

*Xyris gerrardii* N.E. Brown  
 (XYRI ACEAE)



**Synonyms:**



A tufted, perennial. **Stem:** Thread-like and twisted, with 2 wings or ridges below the heads. **Leaves:** Linear leaves clustered on compact underground creeping rootstock, which is covered with persistent dark brown leaf bases. **Inflorescence:** Raceme with 1-6 flowers. **Flowers:** Spikes ellipsoid to obovoid; lower bracts larger than upper; bracts with scarious splitting margins. **Seed:** Unknown. **Altitude:** 1600-2134 m. **Habitat:** Streambanks and seepage areas. **Distribution:** KZN, MP, LP, NW, GP and NC. **General:** Insectivorous plants found in India, Madagascar, Angola and southern. **Similar species:** *X. obscura*, which do not have papery, broken margins

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**Origin:** *Xyris* = Greek for razor; *gerrardii* = Named after William Tyrer Gerrard (1831-1866) an English botanical collector in Natal and Madagascar in the 1860's.





***Xyris obscura*** N.E. Br  
(XYRI ACEAE)

**Synonyms:** *X. nivea* Welw. Ex Rendle; *X. brunnea* L.A. Nilsson; *X. aberdarica* Malme

**Measurements**

Stem height: 0.1-0.5 m  
Leaf length: ± 180 mm  
Leaf width: ± 1 mm  
Inflorescence: 5-8 mm  
Bract length: ± 5 mm  
Capsule length: 3.0-3.5 mm  
Seed length: ± 0.6 mm

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A tufted, perennial, which forms dense clumps. **Stem:** Thin, roundish or flattened with longitudinal ridges; often twisted. **Leaves:** Clustered on compact underground creeper, bases dark reddish-brown; blades linear, cylindrical, or flattened and rush-like. **Inflorescence:** Ellipsoid heads to almost spherical; almost black; 3-6 flowers. **Flowers:** Yellow, bracts broadly ovate, very convex, shiny or rough, black above, dark red-brown below; margins paler and entire. **Seed:** Unknown. **Altitude:** 1200-2000 m. **Habitat:** High altitude damp places, marshes and lake-side marshes. **Distribution:** MP, and GA. **General:** Indigenous species found from Madagascar, tropical Africa from Cameroon Tanzania to the FSA region. **Similar species:** *X. gerrardii*.

**Origin:** *Xyris* = Greek for razor; *obscurus* = indistinct; dark.



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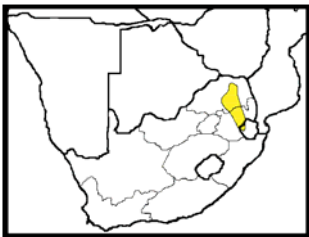


CEvG ©

**Measurements**

Stem height: 0.15-1.21 m  
 Leaf length: ± 600 mm  
 Leaf width: 2-4 mm  
 Inflorescence: ± 10 mm  
 Bract length: 5-7 mm  
 Capsule length: 3.0-5.4 mm  
 Seed length: ± 0.5 mm

*Xyris rehmannii* Nilss  
 (XYRI ACEAE)



**Synonyms:** *X. rigidescens* Welwitsch ex Rendle;  
*X. dispar* N.E. Brown



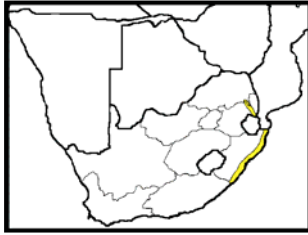
A clump-forming perennial. **Stem:** Thin, cylindrical and flattened below the flower head. **Leaves:** Clustered on compact underground creeper; bases shiny orange-brown to chestnut-brown; blades flat; . **Inflorescence:** Sub-spherical, ± 20-flowered. **Flowers:** Yellow; bracts with entire margin, often with a small, greyish, median patch below apex; lower bracts larger than upper; bracts leathery, blackish-brown and keeled towards the finely pointed tip. **Seed:** Capsules obovoid; seed ellipsoid with 16-18 longitudinal ridges. **Altitude:** 825-1555 m. **Habitat:** Found in swamps and on streambanks. **Distribution:** MP and LP; also in Swaziland. **General:** Indigenous species found from Nigeria, Ethiopia and southwards towards the FSA region. **Similar species:** None.

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**Origin:** *Xyris* = Greek for razor; *rehmannii* = After A. Rehmann (1840-1917), who collected plants around Cape Town in 1875.



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***Xyris anceps* var *anceps* Lam**  
(XYRI ACEAE)

**Synonyms:** *X. anceps* Lam

**Measurements**

Stem height: 0.35-0.91 m  
Leaf length: 80-400 mm  
Leaf width: 1-10 mm  
Inflorescence: 7-15 mm  
Capsule length: 2.5-4.0 mm  
Seed length: 2.5-0.6 mm

Annual or sometime perennial grass-like plant. **Stem:** Solitary, or paired, roundish but distinctly 2-winged below inflorescence; 1-3 mm diameter. **Leaves:** Flat blades, 2-8; bases brownish; not persistent; smooth; tips asymmetrically obtuse. **Inflorescence:** Head broadly ovoid to almost spherical, becoming ovoid in fruit. **Flowers:** Yellowish-green heads with bracts a dull brown grey, triangular lens-shaped mark below the tip. **Fruit:** Capsule ellipsoid, 2.5-6 mm long; seeds ellipsoid to broadly ellipsoid, with 12-13 longitudinal ridges joined by fine cross-walls. **Altitude:** Up to 900 m. **Habitat:** Swamps and pools, usually near the coast, often forming large clumps. **Distribution:** EC, KZN and MP; also in Botswana. **General:** Tropical America, Madagascar and Africa from Senegal & Tanzania south to South Africa.

**Origin:** *Xyris* = Greek for razor; *anceps* = with two edges



***Xyris natalensis* L.A. Nilsson**  
(XYRI ACEAE)

**Synonyms:**

**Measurements**

Stem height: 0.16-0.55 m  
Leaf length: ± 500 mm  
Leaf width: ± 3 mm  
Inflorescence: ± 10 mm  
Capsule length: ± 3 mm  
Seed length: ± 0.6 mm

Tufted, perennial plant; between 0.16-0.55 m high. **Stem:** Wiry, round. **Leaves:** Clustered on compact underground creeper, bases abruptly expanded; blades cylindrical, rigid and rush-like. **Inflorescence:** Terminal, ovoid to oblong-ovoid, many-flowered, head. **Flowers:** Pale brown lower bracts, bearing sharp pointed tips; middle bracts ovate and dark-brown. **Seed:** Capsules narrowly cylindrical and thin-walled; seeds ovoid with longitudinal ridges. **Altitude:** 5-275 m. **Habitat:** Usually found near the coast; common in swamps, around lakes and along streams. **Distribution:** EC, and KZN. **General:** Indigenous to the coastal areas of Mozambique and eastern South Africa. **Similar species:** *X. congensis*.

**Origin:** *Xyris* = Greek for razor; *natalensis* = from Natal (KZN).



## Chapter 6

### ***PROTECTIVE CLOTHING AND EQUIPMENT NEEDED FOR PLANT IDENTIFICATION***

This chapter highlights a few essentials, etc.

#### **Protective clothing**



Hat & backpack



Waders



Gum boots

## Equipment

Helpful field tools:



Measuring tape or Caliper



GPS



Knife



Magnifying glass  
(at least 10-20x)

For plant collection the following tools will be quite helpful when available in the field:



Garden tools, e.g. a) small garden fork, b) small garden spade; c) hook-like tool and d) geological hammer.



Plant press

SANBI sheets.

Collector: ..... No: ..... Date: .....

Provisional name: .....

Region:                      Grid:                      Alt:                      ft/m

GPS	S			E					
Locality									
Biome    Forest    Fynbos    Grassland    Nama Karoo    Savanna    Succulent Karoo    Thicket									
Vegetation Type									
Habitat	mountain peak	mountain slope	hilltop	hill slope	ridge	cliff face	ravine kloof/gorge		
	talus/scree	plateau	valley	foodplain	waterfall	river/stream bank	river/stream		
	dry streambed	donga/gully/ditch	pan	depression	marsh	swamp	wetland		
	seepage	dune (desert)	dune (coastal)	estuary	littoral	lagoon	sea		
Substrate	lake	dam	pond	plain	other:				
	soil	stony soil	rocky soil	gravel	bare rock	in water	termite mound		
Moisture regime	bark	leaf	leaf litter	roots	other:				
	well-drained	seasonally waterlogged		free standing water		tidal	mist/fog		
Soil type	moist/damp	permanently waterlogged		running water		other:			
	gravel	sand	loam	black turf	humus	clay	salt/brack	baserock	
Lithology	sandstone	shale	granite	quartzite	calcrete	dolomite	dolerite		
Exposure	shade	partial shade		full sun		Slope	none	gentle	
	Aspect	N	S	W	E		NE	NW	SE
Biotic effect		moderate		steep		recently burned			garden
	Life form	abandoned land	cultivated land		pasture		none seen		other:
plantation		grazed	disturbed		herb		graminoid	geophyte	epiphyte
climber		parasite	succulent		hydrophyte		bryophyte	lichen	scrambler
saprophyte		lithophyte		other:					

Plant features (underground parts, bark, leaves, flowers, fruit, seeds, aroma)

Flowers: present absent      Fruit: present absent      Plant height:      m

Notes (local abundance, phenology, pollinators, herbivory, economic & ethnobotanical factors, voucher specimen)

Voucher:      photo      ecology      cytology      anatomy      seed      spirit

Plant name:.....

.....

Genspec:..... Det:..... Date:..... No. of labels:.....

## Chapter 7

### OTHER IMPORTANT FACULTATIVE AND OPPORTUNISTIC WETLAND PLANTS

The following pages contain photographs and information on other important facultative and opportunistic wetland plants in South Africa that may be important in the classification of wetlands. These plants are organised according to plant groups and in alphabetical order.

#### CYPERACEAE

*Abildgaardia ovata* M.C. Ward



Small, tufted perennial with solitary inflorescence found in dry and wet conditions.

*Cyperus albostriatus* Schard.



Short perennial with sparse inflorescence found in wet forest margins, stream banks and in kloofs.

*Cyperus difformis* L.



Soft annual with dense inflorescence found in disturbed places where shallow water is available.

*Cyperus esculentus* L. var. *esculentus*



Medium-sized perennial found in seasonally wet grassland, swamps and waste land.

*Cyperus obtusiflorus* Vahl. var. *obtusiflorus*



Perennial grass-like plant which is not a wetland plant.

*Cyperus rotundus* L. subsp. *rotundus*



Medium-sized perennial found in seasonally wet grassland, swamps and waste land.



*Cyperus rupestris* Kunth.



Slender densely tufted, leaf-bearing perennial grow in shallow soil on rocky outcrops.

*Cyperus rigidifolius* Steud.



Slender to robust, leafy, perennial that grows in grassland, in roadsides and cultivated land.

*Cyperus semitrifides* Kunth.



Slender, tufted, erect perennial found in shallow soil overlying rock outcrops but also in moss mats.

*Cyperus sphaerocephalus* Vahl.



Short, compact sedge found on rocky outcrops.

*Kylling alba* Nees



Short, leafy sedge found in sandy soil amongst grasses.

*Kyllinga pulchella*



Slender, tufted sedge found in damp, open grassland and often associated with rocky outcrops.

*Kyllinga welwitschii*



Slender, tufted sedge with three-headed inflorescence found in sandy and damp soils.

*Scirpus burkei* C.B. Clark.



Robust, tufted sedge with long thin bracts overtopping the inflorescence found in sandy soils in grassland, possibly indicating underground water.

## P ACEAE

***Brachiaria serrata*** (Thunb.) Stapf



Perennial, densely or loosely tufted, underground creeping, grass, found occasionally at vleis edges.

***Cortaderia selloana*** (Schult.) Asch & Graebn.



Densely tufted, robust, perennial grass; found in seasonally wet places.

***Bromus catharticus*** Vahl



Short-lived, perennial or annual, tufted grass, found as a ruderal in moist to wet places in shade, disturbed areas or natural veld.

***Cynodon dactylon*** (L.) Pers.



Short, mat-forming grass, found on the edge of pans and the upper reaches of estuaries.

***Cortaderia jubata*** (Lem.) Stapf



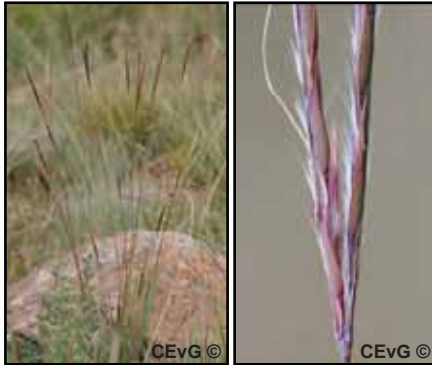
Large, densely tufted, introduced, perennial; used for erosion control on mine dumps.

***Dactyloctenium giganteum*** Fisher & Schweick.



Robust, tufted, annual grass found in open veld or disturbed areas near water or on the river banks.

***Diheteropogon filifolius*** (Nees) Clayton.



A densely tufted, perennial grass found in open mountainous grassland, but also in bushveld and coastal regions in poor sandy or loamy soils.

***Ehrharta ramosa*** (Thunb.) Thunb. subsp. ***ramosa***



A dwarf shrub-like, endemic grass found in mountainous fynbos veld between rocks.

***Eragrostis capensis*** (Thunb.) Trin.



Tufted, perennial grass found on sandy to clayey soils in moist areas, on slopes of rocky or disturbed places, can also occur in areas of fairly highwater table adjacent to swamps.

***Eragrostis gummiflua*** (Roxb.) Steud.



A hard tufted, perennial grass, which grows in grassland and bushveld, road reserves, disturbed places; often in damp places such as seepage areas.

***Eragrostis racemosa*** (Thunb.) Steud.



Small tufted grass found in a large variety of habitats in shallow sandy soil in damp places.

*Eriochrysis pallida* Munro



Grass found amongst other grasses on the outer most fringes of boggy soils of vleis and riverbanks.

*Hordium murinum* Huds.



A medium sized tufted grass with flat, awned spikelets found in

*Harpachloa falx* (L.f.) Kuntze



A tufted grass found in open, stony or rocky, grassland, in highveld areas, with a distinct featherlike inflorescence

*Melinis repens* (Willd.) Zizka subsp. *repens*



Tall, tufted grass found in ruderal, floodplain, in mud flats next to lagoon or damp alluvial sands along road sides and often.

*Monocymbium cerasiiforme* (Nees) Stapf



A medium sized perennial, loosely tufted, reddish grass with a boat-shaped spatheole; found in open grasslands on hillsides

*Panicum subflabellatum* Stapf



Grass found in swampy areas, wet sand along estuaries, floodplains and alluvial soils.

*Setaria sphacelata* (Schumach.) Moss var. *sphacelata*



Perennial grass, found in wetlands, small bogs, marginal forests and in mixed grasses.

*Paspalum dilatatum* Poir



Tufted, underground creeping, perennial grass; found in moist places such as vlei areas and near rivers.

*Sorghum halepense* (L.) Pers.



Tall grass found in damp clay and sandy soils in disturbed places.

*Tristachya leucothrix* Trin. ex Nees



Relative densely tufted, perennial, facultative, indigenous grass, found in marshy grasslands, open grasslands near high water table areas, mountain sourveld and on hillsides.

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Addinfo

## GLOSSARY

- Abaxial:** Located away from or on the opposite side of the axis.
- Achene:** A small dry fruit, not splitting when ripe and containing a single seed.
- Acuminate:** Tapering gradually to a sharp point, as the tips of certain leaves.
- Ape :** Tip, topmost part of terminal end.
- Anaerobic:** Living or taking place in the absence of oxygen, especially not requiring oxygen for metabolism.
- Anthela:** A panicle in which the lateral axes exceed the main axis.
- Alluvium:** Sediment deposited by flowing water, as in a riverbed, flood plain, or delta. Also called *alluvion*.
- Auricle (adj. auricled auriculate):** An ear-like lobe or appendage at the base of a leaf or other organ.
- Awl-shaped:** Shaped like a borer tip.
- Awn:** A stiff bristle-like projection from the tip of the bract or sheath.
- bifid:** Cleft into two parts at the tip.
- bract:** A modified, often reduced leaf.
- Caducous:** Falling off early.
- Cartilaginous:** Firm or tough like leather.
- Chartaceous:** Papery in texture; thin and opaque.
- Colliculate:** Covered with little round humps.
- Concave:** A shape that curves or bends inward.
- Contiguous:** Connected together so as to form an unbroken sequence in time or an uninterrupted expanse in space.
- Convolute:** Rolled up lengthwise and often twisted at the tip.
- Coriaceous:** Like leather in texture.
- Culm:** The stem of restios, grasses and sedges.
- Delineator:** One who, or that which, delineates.
- Deltoid:** Describing a triangular or roughly triangular shape, attached to the stem via the side.
- Diagnostic:** Sufficient characteristic to identify a species or sub-species
- Digitate:** Having distinct parts arising from a common point or center.
- Elaiosome:** A fleshy structure on some restio nuts; it comes in various shapes, usually sitting at the base of the nut; a food sought after by ants and instrumental in seed dispersal.
- Eligulate:** Without a ligule.
- Emergent:** Plants rooted in shallow water and having most of its vegetative growth above water
- Endemic:** Growing in one particular place only.
- Endorheic:** The Endorheic System are commonly referred to as pans, is flat, round, enclosed systems and less than 3m deep.
- Ensiform:** Shaped like a sword.
- Estuarine:** The Estuarine System consists of tidal wetlands that are usually semi-enclosed by land but have open, partly obstructed or sporadic access to the open ocean, and in which ocean water is at least occasionally diluted by freshwater runoff from the land.
- Facultative Negative Wetland Plant:** Plants that occur for <25% of the time in wetland or water saturated areas.
- Facultative Positive Wetland Plant:** Plants that occur for between 67% and 99% of the time in wetland or water saturated areas.
- Facultative Wetland Plant:** Plants that occur 50% of the time in wetland or water saturated areas.
- Glabrous:** without hairs, but not necessarily smooth.
- Glaucous:** Covered with a greyish or whitish waxy bloom obscuring the natural colour.
- Glomerule:** A compact cluster, as of a flower head.
- Glume:** Small dry membranous bract found in inflorescences of Gramineae and Cyperaceae.
- Habitat:** The type of environment in which a plant or group normally occurs.
- Helophyte:** Plant that mainly grows in soil saturated with water or in the water itself, and from which leaf and flower-bearing shoots emerge.
- Hirsute:** Covered with stiff or coarse hairs.
- Hummock:** A low mound or ridge.
- Hyaline:** Almost transparent.
- Hydromorphic:** Referring to an intrazonal soil with characteristics that were developed in the presence of excess water all or part of the time.
- Hydrophyte:** Plant adapted to live in water, or in waterlogged soil.
- Lacustrine:** Area of permanent water with little flow, i.e. relatively shallow lake.
- Lanceolate:** Narrow and elongate, widest below the middle.
- Lenticular:** Shaped like a double biconvex lens.
- Ligule:** A membrane or line on the adaxial leaf surface at the junction of the sheath and the blade.
- Locule:** A chamber or cell of an ovary or fruit containing the seed.

- Marine:** The Marine System consists of the open ocean overlying the continental shelf and its associated exposed coastline.
- Mesic:** Adapted to a moderately moist habitat.
- Mesohaline:** Moderately brackish water with a salinity range of 5-18 ppt.
- Mesophyte:** A plant that grow in places with fairly abundant moisture.
- Monocotyledon:** A major group of flowering plants (angiosperms) whose members typically have one cotyledon, or embryonic leaf, in their seeds, and whose flowers generally have parts in threes or multiples of threes.
- Mucro:** A sharp, pointed part or organ, especially a sharp terminal point.
- Obconic:** Inversely conical, with the point of attachment at the small end.
- Obligate Wetland Plant:** Plants that occur for 99 of the time in wetland or water saturated areas.
- Oligohaline:** Waters with low salinity.
- Olivaceous:** Olive coloured.
- Oshana:** Pans in Namibia.
- Ovate:** Oval and wider at the bottom than the top.
- Palustrine:** The Palustrine System groups together vegetated wetlands traditionally called marshes, swamps, bogs, fens and vleis.
- Panicle:** An inflorescence in which the axis is divided into branches bearing several flowers.
- Paniculate:** Like a panicle
- Papillate:** Covered with papillae.
- Pedicellate:** Having or resembling a pedicel or growing on (or from) a pedicel or stalk.
- Penicillate:** With a tuft of hairs at the end.
- Perianth:** The outer envelope of a flower, consisting of either the calyx or the corolla, or both.
- Pilose:** Covered with soft hairs.
- Plano-conve :** Flat on one side and convex on the other.
- Plumous:** Having hairs, or other parts, arranged along an axis like a feather; feathery; plumelike.
- Praemorse:** As if bitten off, blunt.
- Raceme:** An inflorescence in which the flowers are borne on pedicels along an unbranched axis or peduncle, the terminal flowers being the youngest and last to open.
- Racemose:** Like a raceme.
- Rachis:** A main axis or shaft, such as the main stem of an inflorescence
- Rhizome:** An underground stem, usually growing horizontally, often rooting at the nodes, generally with reduced leaves at the nodes.
- Riverine:** The Riverine System includes all wetlands contained within a channel. A channel is an open conduit, either natural or artificial, which periodically or continuously contains flowing water.
- Rugulous:** Finely wrinkled.
- Saturated:** Being the most concentrated solution possible at a given temperature; unable to dissolve still more of a substance.
- Scabrid:** Rough to the touch, usually from the presence of short hairs.
- Scarious:** Thin and dry, not green.
- Sedge:** A plant in the family Cyperaceae, grass-like in appearance, but with solid Culms that are triangular in cross-section.
- Septate:** Divided by one or more partitions.
- Setaceous:** Having bristle-like hairs.
- Sessile:** Without a stalk' that grow directly from the stem.
- Soboles:** A shoot running along under ground, forming new plants.
- Spathe:** A large bract enclosing a flower or inflorescence.
- Spathella:** Glume; a capsule-like structure enclosing the flower buds.
- Spicate:** Having the form of a spike, or ear; arranged in a spike or spikes
- Stramineous:** Like straw or straw coloured.
- Striae:** A thin, narrow groove or channel. A thin line or band, especially one of several that are parallel or close together.
- Submerged:** Plants growing under water.
- Subulate:** Awl-shaped.
- Sulcate:** Grooved.
- Terete:** Cylindrical and round in cross-section.
- Trigonous:** Obtusely 3-angled, with plane faces.
- Truncate:** To shorten by or as if by cutting off.
- Tuberculate:** Covered with wart-like protuberances or knobs.
- Tussock:** A dense tuft or clump of vegetation, especially grass or grass-like plants.
- tricle:** A sack or bottle-like sheath surrounding the nut in *Carex* (Cyperaceae)
- illous:** Pubescent with long and soft hairs that are not interwoven.

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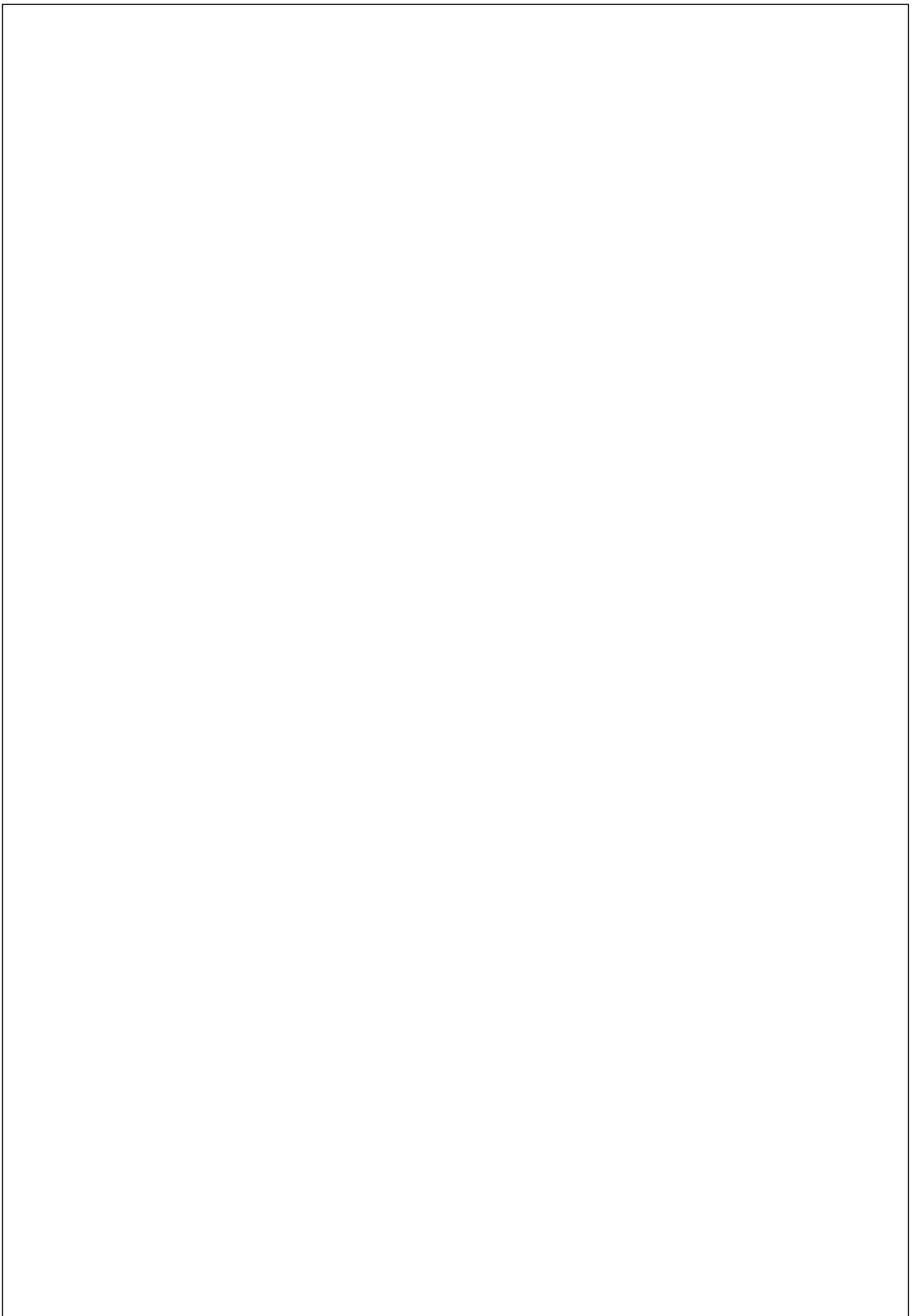
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