

# Patterns of endemism within the Karoo National Park, South Africa

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**Keywords:** checklist, endemic patterns, Karoo National Park, South Africa

## ABSTRACT

A checklist of 864 plant taxa representing 355 genera and 93 families is given for the Karoo National Park. A total of 121 species are endemic to the Nama-Karoo, with Asteraceae the most common with 33 taxa, followed by Mesembryanthemaceae with 26 taxa. Phytochorological affinities indicate that 19.8% of the species are from the Nama-Karoo Biome only, another 19.8% are distributed over two biomes, and 41% of the species have a widespread distribution. The Karoo National Park conserves 30% of the recognized endemics of the Nama-Karoo Biome.

## INTRODUCTION

The Karoo National Park,  $\pm$  75 000 ha and established in 1979, is situated in the Nama-Karoo (Rutherford & Westfall 1986),  $\pm$  five km WNW of Beaufort West (Figure 1), 32°11'S–32°23'S and 22°15'E–22°35'E. The general landscape in which the Park occurs, extends from the Great Karoo, across the Nuweveld Mountain Range, which is part of the Great Escarpment, to the Upper Karoo (King 1942), or Southern Interior Basin (Kruger 1983). Elevation in the Park ranges from 820 to 1 620 m asl and mean annual rainfall varies from 175 mm in the west to 254 mm in the central area, and 406 mm on top of the Nuweveld Mountain Range (Dent *et al.* 1987).

Elements of four phytochoria are represented in the Park. These are the Tongaland-Pondoland succulent thickets (Moll & White 1978), Karoo-Namib elements (Werger 1978), Afromontane remnants (White 1983), and Sudano-Zambesian grasslands (Werger & Coetzee 1978). A phytosociological study described fifteen dominant plant communities in the original 33 000 ha of the Karoo National Park (Rubin & Palmer 1996). The two Veld Types represented in the original section of the Park are the Karroid Broken Veld of the Great Karoo (Acocks 1988: Veld Type 26), and the Karroid *Merxmuellera* Mountain Veld replaced by Karoo vegetation (Veld Type 42).

The vegetation of the upper plateau, on top of the Nuweveld Mountain Range, consists of montane grassland on undulating rocky dolerite. These higher areas contain many taxa known to occur in the winter rainfall area of the southwestern Cape, whereas areas with soils derived from doleritic origin on the middle plateau support numerous summer rainfall species (Figure 2). This combination has allowed for succulents of considerable interest (P. Bruyns pers. comm.). The upper plateau of the Nuweveld Mountain Range falls away in a northerly

direction (Figure 2), with a rapid change in vegetation from the mesic vegetation to a xeric dwarf shrub landscape, typical of the lower elevations south of Beaufort West. In these areas, dolerite-derived substrate and deep soils are replaced by more fertile sandstone, siltstone and mudstone-derived soils.

On the dolerite of a slightly lower middle plateau (Figure 2), montane grassland is replaced by a grassy shrubland. On the low-lying plains a strong aridity gradient can also be detected from east to west, with sparser, grassy, succulent taxa in the west and dwarf shrubs dominating to the east.

Rubin & Palmer (1996) created a baseline inventory of the homogeneous plant communities of the Park. This study explores the floristic composition of the Karoo National Park, relative to the floristic richness of the rest of the Karoo Biome, and the floristic relationship with other biomes.

## METHODS

Plant species data of the Karoo National Park have been collected by many people since the proclamation of the Park in 1979. Valuable contributions were made by B. Randall, a botanist who was resident in the Park from 1987 to 1988, D. Shearing, who worked on a field guide for Karoo plants, P. Bruyns, who concentrated on succulents and geophytes, and C. van Ginkel who started the phytosociological survey. A checklist is provided with information included after each taxon, i.e.: author name, collector's name and number, specimen location, biome distribution, and growth form.

Phytochorological affinities and patterns of endemism of the taxa in this list were determined from literature held at the Selmar Schonland Herbarium, Grahamstown, namely Hutchinson & Phillips (1917), Von Poellnitz (1933), Phillips & Dyer (1934), Jacobsen (1960), Obermeyer (1961a–c), Nordenstam (1968), Tölken (1969), Dyer (1975), Hilliard (1977), Obermeyer (1978), Court (1981), Hilliard (1981a, b), Bond & Goldblatt (1984), Källersjö (1985), Källersjö (1988),

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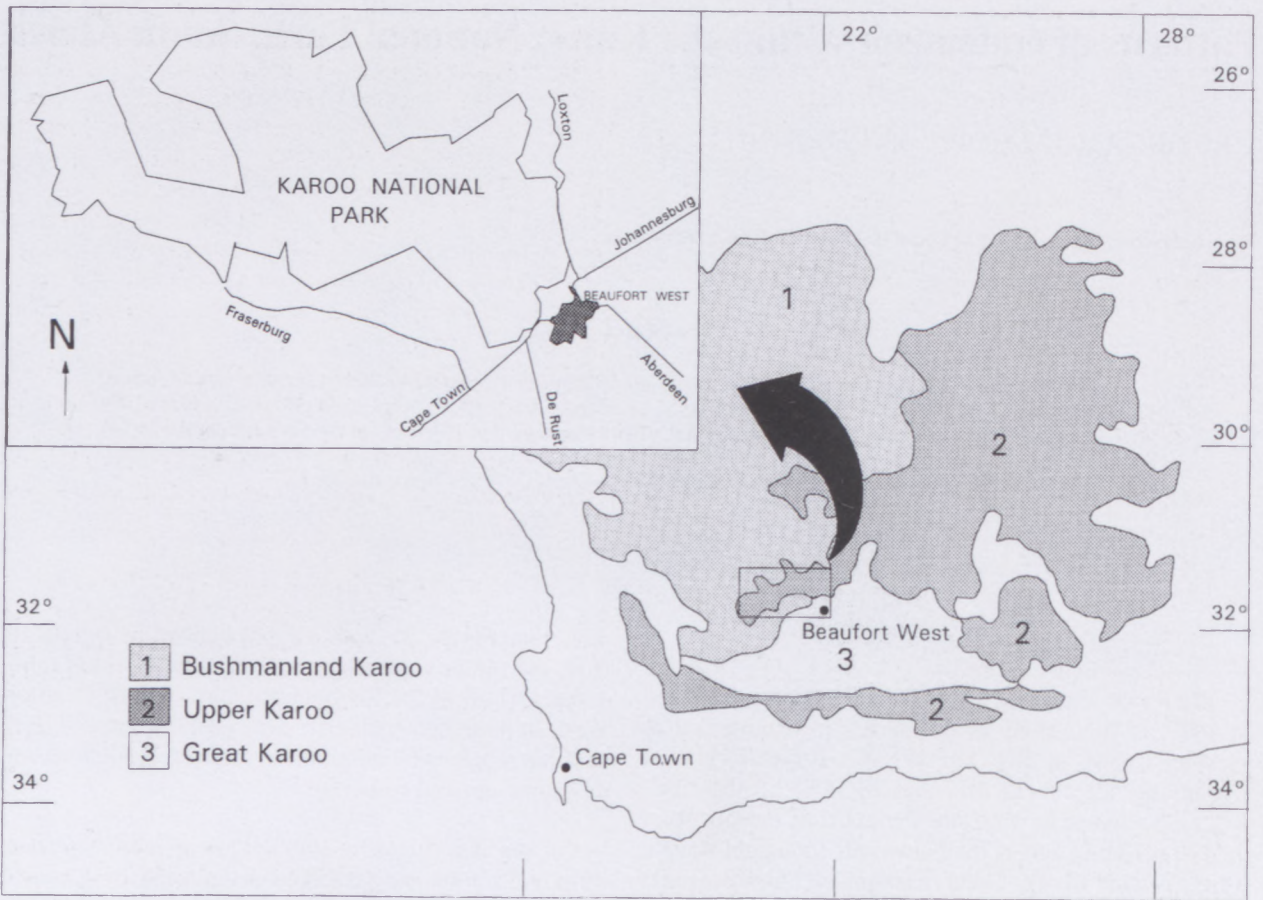


FIGURE 1.—Location of the Karoo National Park in relation to the Nama-Karoo Biome.

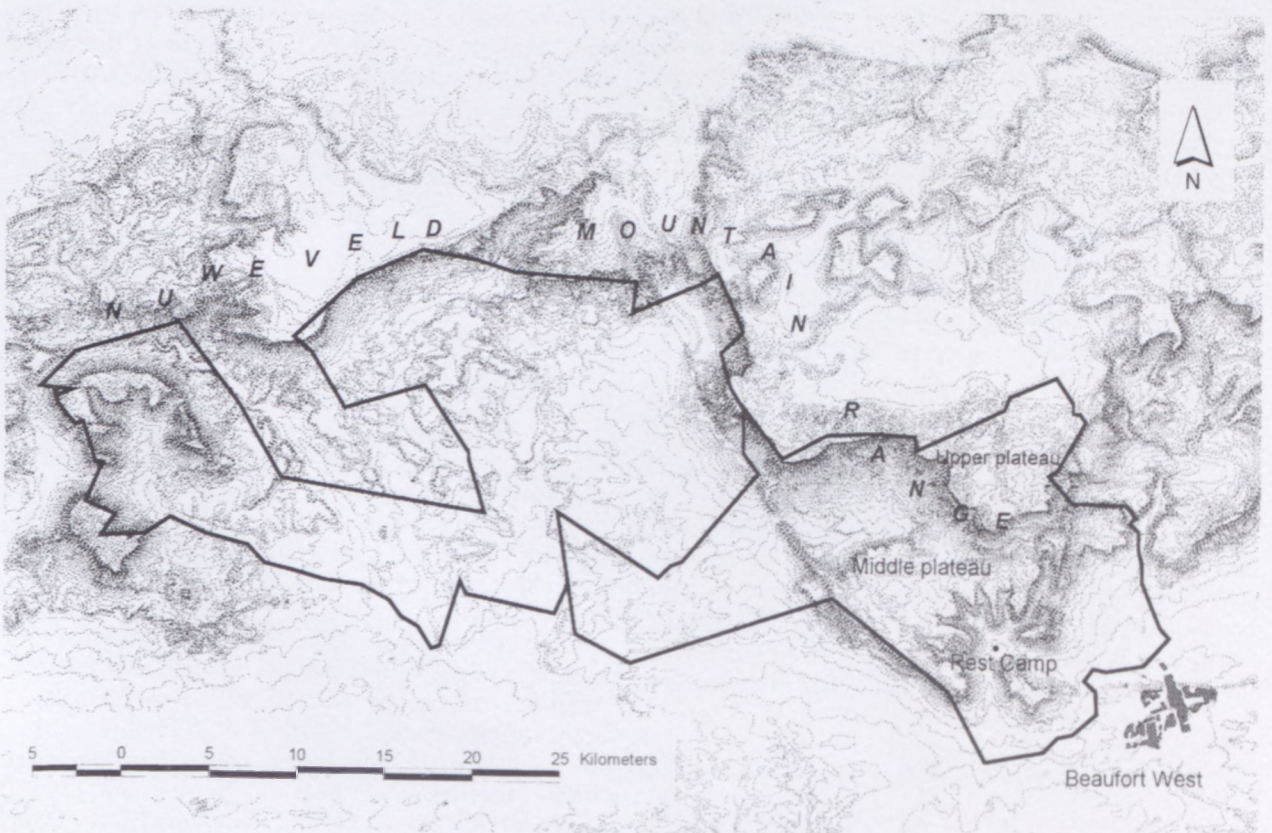


FIGURE 2.—The topography of the Karoo National Park against the Nuweveld Mountain Range.

TABLE 1.—Number of species and their distribution in one, two or three biomes in the Karoo National Park

One biome	No. spp.	Three biomes	No. spp.
F	17	NK/SK/F	37
SK	15	NK/SK/ST	11
G	12	NK/SK/S	6
ST	3	NK/SK/G	9
S	3	NK/F/G	3
NK	121	NK/F/S	23
Total	171	NK/G/S	14
		NK/G/ST	2
		NK/S/ST	2
		S/G/ST	1
		F/SK/G	1
		F/SK/ST	1
		F/SK/S	3
		F/ST/G	3
		F/S/G	2
		Total	118
		<b>Endemics</b>	
		KNP	6
		GK	35
		BK	7
		UK	6
		GK/BK	1
		G/UK	15
		UK/BK	2
		NK	49
		Total	121
		<b>Two biomes</b>	
NK/SK	56		
NK/F	25		
NK/ST	22		
NK/S	25		
NK/G	16		
SK/F	10		
ST/F	5		
ST/G	4		
S/G	5		
S/F	1		
SK/G	1		
SK/S	1		
Total	171		
Insufficient data	50		
<b>TOTAL</b>		<b>631</b>	

BK, Bushmanland Karoo; F, Fynbos; G, Grassland; GK, Great Karoo; KNP, Karoo National Park; NK, Nama-Karoo; S, Savanna; SK, Succulent Karoo; ST, Subtropical Thicket; UK, Upper Karoo.

Källersjö (1991), Van Wyk (1991), and Gerbault (1991a, b). The species were assigned to various categories based on the biome distinctions as originally mapped by Rutherford & Westfall (1986), namely G, Grassland, S, Savanna, ST, Subtropical Thicket, F, Fynbos, SK, Succulent Karoo (Table 1). The Nama-Karoo Biome

(NK) was subdivided, according to rainfall and elevation, into three: the Bushmanland Karoo (BK), adjacent to the Succulent Karoo, the more mesic Upper Karoo (UK), north of Beaufort West, and the more xeric Great Karoo (GK), south of Beaufort West (Figure 1; Table 1) (Palmer & Hoffman 1997). The categories used in classifying the species' phytochorological affinities are: 1, widespread (W), including distribution ranges extending outside South Africa and exotics; 2, transgressor species with ranges extending across three biomes, the most common category being NK/SK/F; 3, transgressor species with ranges extending across two biomes, the most common category being NK/SK; 4, species whose range is restricted to one biome only, the most common category being NK; 5, endemics belonging to the Nama-Karoo subdivisions: Bushmanland Karoo, Upper Karoo, Greater Karoo and Karoo National Park Endemics (Table 1).

Grass species were divided into C<sub>3</sub> and C<sub>4</sub> categories with the help of Watson & Dallwitz (1992), and for the rest of the plant species list, the growth form and possible synonyms for each species were obtained from the PRECIS database, National Botanical Institute.

RESULTS

A total of 864 species and infraspecific taxa (see checklist), representing 355 genera and 93 families (Table 2) was recorded in the study area. Two veld types are represented by the original section of the Karoo National Park (Figure 3), namely the Karroid Broken Veld (VT 26) which covers approximately 66% and Karroid *Merxmuellera* Mountain Veld replaced by Karoo (VT 42) which covers approximately 33% of the original 33 000 ha of the park (Acocks 1988). A total of 121 species (14%) are endemic to the Nama-Karoo (Table 1). Species of Asteraceae are the most common with 33 taxa, fol-

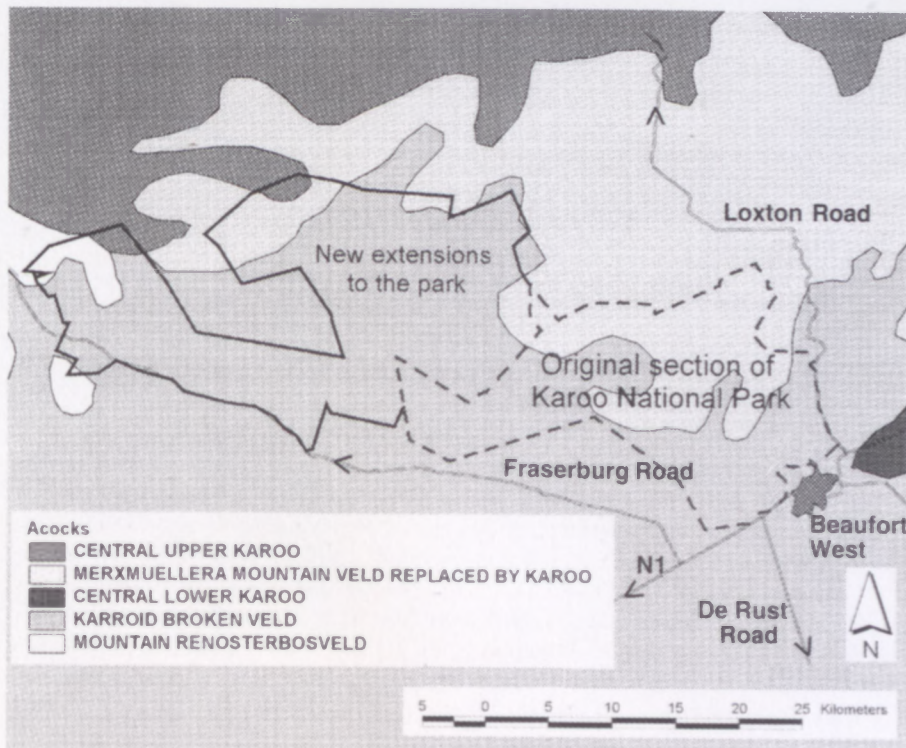


FIGURE 3.—The expansion of the Karoo National Park and the location of the Acocks (1988) Veld Types in and surrounding the park.

TABLE 2.—Number of genera and species in the plant families collected in the Karoo National Park. Families in bold type encompass &gt;50% of spp.

Family	Total fam.	No. gen.	Total gen.	No. spp.	Total spp.	Nat. exotics	Family	Total fam.	No. gen.	Total gen.	No. spp.	Total spp.	Nat. exotics	
LICHENS	2		2		2	0	Montiniaceae		1		1			
Parmeliaceae		1		1			Rosaceae		2		2			
Usneaceae		1		1			<b>Fabaceae</b>		<b>14</b>		<b>34</b>			
-----							<b>Geraniaceae</b>		<b>4</b>		<b>28</b>			
FUNGI	1		1		1	0	Oxalidaceae		1		5			
Tulostomataceae		1		1			Linaceae		1		2			
-----							Zygophyllaceae		3		9			
PTERIDOPHYTA	4		7		12	0	Polygalaceae		2		9			
Ophioglossaceae		1		1			Euphorbiaceae		3		15			
Marsileaceae		1		1			Anacardiaceae		1		9			
Adiantaceae		3		8			Celastraceae		1		2			
Aspleniaceae		2		2			Sapindaceae		1		1			
-----							Melanthaceae		1		1			
ANGIOSPERMAE							Rhamnaceae		1		1			
MONOCOTYLEDONAE	15		84		172	2	Tiliaceae		1		1			
Typhaceae		1		1			Malvaceae		5		7			
<b>Poaceae</b>		<b>35</b>		<b>69</b>			Sterculiaceae		1		20			
Cyperaceae		6		12			Tamaricaceae		1		1			
Commelinaceae		1		1			Flacourtiaceae		1		1			
Juncaceae		1		4			Cactaceae		1		1			
Colchicaceae		2		2			Thymelaeaceae		2		7			
<b>Asphodelaceae</b>		<b>7</b>		<b>25</b>			Myrtaceae		1		1			
Hyacinthaceae		12		18			Onagraceae		2		2			
Erioseptaceae		1		2			Araliaceae		1		1			
Alliaceae		1		2			Apiaceae		6		7			
Asparagaceae		1		16			Primulaceae		1		1			
Amaryllidaceae		6		7			Ebenaceae		2		5			
Hypoxidaceae		1		1			Oleaceae		2		2			
Iridaceae		7		10			Loganiaceae		2		3			
Orchidaceae		2		3			Gentianeae		1		1			
-----							Apocynaceae		2		2			
DICOTYLEDONAE	71		261		677	24	<b>Asclepiadaceae</b>		<b>15</b>		<b>24</b>			
Salicaceae		1		1			Convolvulaceae		2		5			
Urticaceae		2		2			Boraginaceae		9		10			
Loranthaceae		2		2			Verbenaceae		2		5			
Viscaceae		1		3			Lamiaceae		7		13			
Santalaceae		1		7			Solanaceae		6		18			
Polygonaceae		1		1			<b>Scrophulariaceae</b>		<b>11</b>		<b>31</b>			
Chenopodiaceae		5		20			Selaginaceae		4		12			
Amaranthaceae		2		2			Bigoniaceae		1		2			
Nyctaginaceae		1		1			Pedaliaceae		1		2			
Aizoaceae		9		22			Lentibulariaceae		1		1			
<b>Mesembryanthemaceae</b>		<b>19</b>		<b>44</b>			Acanthaceae		5		11			
Portulacaceae		3		10			Plantaginaceae		1		1			
Caryophyllaceae		3		6			Rubiaceae		3		7			
Illecebraceae		1		1			Dipsacaceae		1		1			
Ranunculaceae		2		2			Cucurbitaceae		3		6			
Menispermaceae		1		1			Campanulaceae		1		2			
Papaveraceae		2		2			Lobeliaceae		1		1			
Fumariaceae		1		1			<b>Asteraceae</b>		<b>54</b>		<b>170</b>			
Brassicaceae		3		7			TOTAL		93		355		864	26
Capparaceae		1		1										
<b>Crassulaceae</b>		<b>4</b>		<b>37</b>										

lowed by Mesembryanthemaceae with 26 taxa. The only species with Red Data status (Hilton-Taylor 1996) are *Cliffortia arborescens* which is considered to be rare, and *Anisodonteia malvastroides* which is threatened.

Of the 864 species listed in the Karoo National Park (Table 2), 356 species (41.1%) have a widespread distribution, i.e. over more than three biomes (Table 1). Of the remaining species, 170 species (19.8%) were from the Nama-Karoo Biome only, another 171 species were dis-

tributed over two biomes, of which the Nama-Karoo-Succulent Karoo (NK/SK) mix was the highest with 56 species, followed by Nama-Karoo-Fynbos (NK/F) and Nama-Karoo-Savanna (NK/S) both with 25 species (Table 1). Of the species distributed over three biomes, the Nama-Karoo-Succulent Karoo-Fynbos (NK/SK/F) combination is the highest, with 37 species, followed by Nama-Karoo-Fynbos-Savanna (NK/F/S) (23 species) (Table 1). Twenty-three of the species listed are naturalized exotics (Table 2).

## DISCUSSION

The Nama-Karoo Biome includes 21 Veld Types (Acocks 1988), and  $\pm$  2 147 taxa, 18% of which are endemic (Gibbs Russell 1987). Although the Karoo National Park only effectively conserves representative samples of one of these 21 Veld Types, namely the Karroid Broken Veld (VT 26), it nevertheless protects 30% of the recognized flora of the Nama-Karoo Biome. The Park is therefore an important conservation area. Nine families (in bold, Table 2) encompass over 50% of the species in the Park. A similar pattern was noted in the Karoo Nature Reserve near Graaff-Reinet (Palmer 1989), and as with Gibbs Russell (1987) no differential occurrence could be found for important families of the Nama-Karoo Biome. Therefore, unlike the other five major biomes, the Nama-Karoo Biome does not appear to be floristically distinct (Gibbs Russell 1987).

The major biomes fall into two groups, namely those with winter rainfall and those with summer rainfall (Gibbs Russell 1987). The Nama-Karoo Biome, which is distinguished by extreme temperature, (i.e. very hot summers and very cold winters,) and autumn and spring rainfall peaks (Rutherford & Westfall 1994), shares half of its species with that of the Savanna Biome. A further 30% of the Karoo Biome species are shared with the Grassland Biome and a third with the Fynbos Biome (Gibbs Russell 1987).

The Nama-Karoo Biome remains one of the least studied of southern Africa's biomes (Palmer & Hoffman 1996). The recent (1997–2000) extensions of the Park incorporate further sections of the Karroid Broken Veld (Veld Type 26), and to a lesser extent, *Merxmuellera* Mountain Veld replaced by Karoo vegetation (Veld Type 42), as well as small areas of previously excluded Veld Types, namely Central Upper Karoo (Acocks 1988: Veld Type 27) and Mountain Renosterbosveld (Veld Type 43) (Figure 3). Central Upper Karoo or Upper Nama-Karoo (50) in Low & Rebelo (1996), occupies the central part of the upper plateau of the Upper Karoo, while the Mountain Renosterbosveld or Escarpment Mountain Renosterveld (60) in Low & Rebelo (1996), is located on the slopes and foothills of the Nuweveld Mountains. Very little is known about this form of Renosterveld and the conservation status is very poor (Low & Rebelo 1996).

The only other Veld Type adjacent to the Park is the Central Lower Karoo (Acocks 1988: Veld Type 30), or Central Lower Nama-Karoo (54) in Low & Rebelo (1996). The area supporting this Veld Type is separated from the Park by the national road (N1), is flat and stony and plant species given in Acocks (1988) appear to be similar to those in the Park. Nevertheless, this Veld Type was given a high conservation priority rating by Hilton-Taylor & Le Roux (1989), presumably because it was not included in a conservation area, and should be considered for inclusion in the Park.

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## CHECKLIST OF THE VASCULAR PLANTS OF THE KAROO NATIONAL PARK

The nomenclature and arrangement of the checklist follow Arnold & De Wet (1993), with synonyms/name changes provided by the National Botanical Institute. The species name (in roman type) is followed by the author name (in italics) according to Brummitt & Powell (1992), collector name and number(s) (in italics), specimen location, biome distribution and growth form. The categories are separated by commas. Lichens and fungi do not have biome distribution and growth form details. In grasses, C<sub>3</sub> and C<sub>4</sub> depict the photosynthetic pathways.

Abbreviations used:

BOL, Bolus Herbarium; BK, Bushmanland Karoo; cl, climber; Cp, Cape; dw, dwarf shrub; E, Endangered; F, Fynbos; FS, Free State; g, geophyte; G, Grassland; GK, Great Karoo; gr, graminoid; GRA, Grahamstown Herbarium; h, herb; hy, hydrophyte; K, Insufficiently known; KRNP, Karoo National Park; N, KwaZulu-Natal; NK, Nama-Karoo; p, parasite; R, Rare; S, Savanna; sc, scrambler; SCH, Layton Herbarium; sh, shrub; SK, Succulent Karoo; ST, Subtropical thicket; su, succulent; t, tree; UK, Upper Karoo; W, widespread; ?, unknown distribution; \*, exotic; +, endemic; [ ], occasional growth form.

### LICHENS

#### PARMELIACEAE

*Xanthoparmelia* sp. (*Parmelia hottentotta*), *Shearing s.n.*, SCH, NK/F/S

#### USNEACEAE

*Usnea undulata*, *Shearing s.n.*, SCH, W

### FUNGI

#### TULOSTOMATACEAE

*Podaxis pistillaris*, *Shearing s.n.*, SCH, W

### PTERIDOPHYTA

#### OPHIOGLOSSACEAE

*Ophioglossum polyphyllum* A.Braun, *Braack 483*, SCH, ?, h, g

#### MARSILEACEAE

*Marsilea* sp., *Bruyns s.n.*, BOL, W

#### ADIANTACEAE

*Adiantum capillus-veneris* L., *Shearing s.n.*, SCH, W, h, [cl]

#### Cheilanthes

*capensis* (Thunb.) Sw., *Palmer & Van Ginkel 2908*, GRA, W, h

*eckloniana* (Kunze) Mett., *Braack 348*, SCH, W, h

*hirta* Sw. var. *hirta*, *Shearing s.n.*, *Bruyns 3323, 3400*, *Rubin 40*, BOL, KRNP, W, h

*induta* Kunze, *Braack 348*, SCH, KRNP, Cp, h

*quadripinnata* (Forssk.) Kuhn, *Rubin s.n.*, KRNP, W, h

#### Pellaea

*calomelanos* (Sw.) Link var. *calomelanos*, *Braack 491*, SCH, W, h

*rufa* A.F.Tryon, *Braack 49*, SCH, Cp, h

#### ASPLENIACEAE

##### Asplenium

*trichomanes* L., *Bruyns 3345*, BOL, SCH, W, h

*ceterach cordatum* (Thunb.) Desv., *Palmer & Van Ginkel 1844, 2805*, GRA, W, h

### ANGIOSPERMAE MONOCOTYLEDONAE

#### TYPHACEAE

*Typha capensis* (Rohrb.) N.E.Br., *Randall 27414*, SCH, W, h, hy

#### POACEAE

##### Andropogon

*chinensis* (Nees) Merr., NK/G/S, C<sub>4</sub>

*schirensis* A.Rich., S/G, C<sub>4</sub>

##### Cymbopogon

*dieterlenii* Stapf ex E.Phillips, *Rubin 26766*, KRNP, W, C<sub>4</sub>

*excavatus* (Hochst.) Stapf ex Burt Davy, *Palmer & Van Ginkel 2713, 2755*, GRA, W, C<sub>4</sub>

*plurinodis* (Stapf) Stapf ex Burt Davy, W, C<sub>4</sub>

*prolixus* (Stapf) E.Phillips, *Rubin 65, 3205*, SCH, KRNP, W, C<sub>4</sub>

*validus* (Stapf) Stapf ex Burt Davy, *Shearing 856*, SCH, W, C<sub>4</sub>

- Hyparrhenia hirta (L.) Stapf, Braack 422, Rubin 3172, 36914, KRNP, W, C<sub>4</sub>
- Heteropogon contortus (L.) Roem. & Schult., Palmer & Van Ginkel 1846, GRA, W, C<sub>4</sub>
- Themeda triandra Forssk., Palmer & Van Ginkel 2719, Rubin 26773, GRA, KRNP, W, C<sub>4</sub>
- Digitaria  
argyrograpta (Nees) Stapf, Palmer & Van Ginkel 2682, 2842, Rubin 26908, GRA, KRNP, NK/G/S, C<sub>4</sub>
- eriantha Steud., Palmer & Van Ginkel 1845, 2726, 2735, GRA, W, C<sub>4</sub>
- Panicum  
deustum Thunb., Shearing 27405, SCH, NK/S/StH, C<sub>4</sub>/C<sub>3</sub>
- maximum Jacq., Shearing s.n., SCH, W, C<sub>4</sub>/C<sub>3</sub>
- Setaria verticillata (L.) P.Beauv., Shearing s.n., SCH, W, C<sub>4</sub>
- Pennisetum setaceum (Forssk.) Chiov., Rubin s.n., KRNP, W, \*
- Cenchrus ciliaris L., Palmer & Van Ginkel 2717, 2794, 2839, Rubin 26720, GRA, KRNP, W, C<sub>4</sub>
- Ehrharta calycina Sm. var. calycina, Palmer & Van Ginkel 2752, Rubin 3209, GRA, KRNP, W, C<sub>3</sub>
- Helictotrichon sp., Shearing 855, SCH, ?, C<sub>3</sub>
- Merxmüllera  
disticha (Nees) Conert, Palmer & Van Ginkel 2752, Rubin 26910, GRA, KRNP, NK/F/G, C<sub>3</sub>, [hy]
- stricta (Schrud.) Conert, Rubin 26777, KRNP, NK/F/G, C<sub>3</sub>
- Karroochloa purpurea (L.f.) Conert & Türpe, Rubin 2657, KRNP, W, C<sub>3</sub>
- Pentaschistis  
airoides (Nees) Stapf  
subsp. airoides, Palmer & Van Ginkel 2893, 2916, GRA, NK/SK/F, C<sub>3</sub>
- subsp. jugorum (Stapf) H.P.Linder, Rubin 29, G, C<sub>3</sub>
- ecklonii (Nees) McClean, Rubin 3208, KRNP, F, +, C<sub>3</sub>
- patula (Nees) Stapf, Palmer & Van Ginkel 2919, GRA, SK/F, C<sub>3</sub>
- setifolia (Thunb.) McClean, Rubin 3211, 26768, KRNP, G, C<sub>3</sub>
- Chaetobromus dregeanus Nees, Rubin 3213, KRNP, NK/SK/F, C<sub>3</sub>
- Arundo donax L., pers obs., W, C<sub>3</sub>
- Phragmites australis (Cav.) Steud., Shearing s.n., SCH, W, C<sub>3</sub>
- Agrostis lachnantha Nees var. lachnantha, Shearing 911, SCH, W, C<sub>3</sub>
- Polypogon  
monspeliensis (L.) Desf., Bengis 450, SCH, W, C<sub>3</sub>, \*
- viridis (Gouan) Breistr., Palmer & Van Ginkel 2469, GRA, W, C<sub>3</sub>, \*
- Stipagrostis  
ciliata (Desf.) De Winter var. capensis (Trin. & Rupr.) De Winter, Palmer & Van Ginkel 2769, Rubin 26915, GRA, KRNP, NK/SK/S, C<sub>4</sub>
- namaquensis (Nees) De Winter, Shearing s.n., SCH, NK/SK/S, C<sub>4</sub>, sh
- obtusata (Delile) Nees, Braack 65, Rubin 26904, KRNP, NK/SK/S, C<sub>4</sub>
- Aristida  
adscensionis L., Shearing s.n., SCH, W, C<sub>4</sub>
- congesta Roem. & Schult. subsp. congesta, Palmer & Van Ginkel 1868, 2733, GRA, W, C<sub>4</sub>
- diffusa Trin. subsp. diffusa, Palmer & Van Ginkel 1830, Rubin 26909, GRA, KRNP, NK/G/S, C<sub>4</sub>
- Tragus  
berteronianus Schult., Palmer & Van Ginkel 1831, GRA, W, C<sub>4</sub>
- koelerioides Asch., Palmer & Van Ginkel 2672, GRA, NK/G/S, C<sub>4</sub>
- racemosus (L.) All., Shearing s.n., SCH, W, C<sub>4</sub>
- Sporobolus fimbriatus (Trin.) Nees, Palmer & Van Ginkel 2809, GRA, W, C<sub>4</sub>
- Eragrostis  
bergiana (Kunth) Trin., Rubin 53, NK (GK/UK), +, C<sub>4</sub>
- chloromelas Steud., Palmer & Van Ginkel 2748, GRA, NK/G/S, C<sub>4</sub>
- curvula (Schrud.) Nees, Palmer & Van Ginkel 2090, 2723, Rubin 3174, 3206, GRA, KRNP, W, C<sub>4</sub>
- lehmanniana Nees var. lehmanniana, Palmer & Van Ginkel 1812, GRA, W, C<sub>4</sub>
- obtusata Munro ex Ficalho & Hiern, Palmer & Van Ginkel 1810, Rubin 26996, GRA, KRNP, W, C<sub>4</sub>
- porosa Nees, Rubin 89, KRNP, NK/S (GK/UK), C<sub>4</sub>
- × pseud-obtusata De Winter, NK/S (UK), C<sub>4</sub>
- Cynodon  
dactylon (L.) Pers., Shearing s.n., SCH, W, C<sub>4</sub>
- incompletus Nees, Randall 27343, KRNP, W, C<sub>4</sub>
- Oropetium capense Stapf, NK/G/S, C<sub>4</sub>
- Diplachne fusca (L.) P.Beauv. ex Roem. & Schult., Bengis 462, SCH, W, C<sub>4</sub>
- Enneapogon  
cenchroides (Roem. & Schult.) C.E.Hubb., Palmer & Van Ginkel 2873, GRA, W, C<sub>4</sub>
- desvauxii P.Beauv., Palmer & Van Ginkel 2487, GRA, W, C<sub>4</sub>
- scaber Lehm., Palmer & Van Ginkel 1809, 2676, Rubin 26907, 26916, GRA, KRNP, NK (BK), +, C<sub>4</sub>
- scoparius Stapf, Palmer & Van Ginkel 2718, 2892, GRA, W, C<sub>4</sub>
- Fingerhuthia  
africana Lehm., Palmer & Van Ginkel 1811, 2814, Rubin 26929, GRA, KRNP, W, C<sub>4</sub>
- sesleriiformis Nees, Palmer & Van Ginkel 2906, GRA, NK/G/S, C<sub>4</sub>
- Koeleria capensis (Steud.) Nees, Rubin 3207, KRNP, W, C<sub>3</sub>
- Melica  
decumbens Thunb., Bengis 367, Rubin 3210, KRNP, NK/G, C<sub>3</sub>
- racemosa Thunb., Shearing 853, Rubin 3244, KRNP, W, C<sub>3</sub>
- Festuca scabra Vahl, Bengis 383, KRNP, W, C<sub>3</sub>
- Bromus  
leptoclados Nees, Bengis 396, KRNP, W, C<sub>3</sub>
- pectinatus Thunb., W, C<sub>3</sub>
- sp., Rubin 3213, KRNP, NK/G/S, C<sub>3</sub>
- Brachypodium bolusii Stapf, NK/G, C<sub>3</sub>
- Hordeum marinum Huds. subsp. gussoneanum (Parl.) Thell., Rubin 3243, KRNP, F/SK/G, C<sub>3</sub>
- Schismus inermis (Stapf) C.E.Hubb., Sugden s.n., Cp, C<sub>3</sub>
- CYPERACEAE  
Carex zuluensis C.B.Clarke, Sugden s.n., W, h, gr
- Cyperus  
bellus Kunth, Shearing s.n., SCH, W, h, gr
- laevigatus L., Shearing s.n., SCH, NK/F/S, h, gr
- longus L. var. longus, Palmer & Van Ginkel 2091, GRA, W, h, gr
- marginatus Thunb., Shearing s.n., SCH, W, h, gr
- rupestris Kunth, Sugden s.n., W, h, gr
- tenellus L.f. var. tenellus, Palmer & Van Ginkel 2102, GRA, NK/F/S, h, gr
- usitatus Burch. var. usitatus, Rubin 28, SCH, W, h, gr, g
- Mariscus capensis (Steud.) Schrad., Rubin 106, SCH, W, h, gr
- Ficinia  
lateralis (Vahl) Kunth, Palmer & Van Ginkel 2096, GRA, F/StH, h, gr
- ramosissima Kunth, Rubin 3257, KRNP, NK/F/S (GK), h, gr
- Scirpoides dioecus (Kunth) Browning, Palmer & Van Ginkel 2093, Rubin 3199, GRA, KRNP, W, gr, [h]
- Pseudoschoenus inanis (Thunb.) Oteng-Yeb., Bengis 465, Palmer & Van Ginkel 2092, GRA, NK/SK/StH, h, gr
- Isolepis prolifer (Rottb.) R.Br., Bengis 464, KRNP, W, h, gr
- RESTIONACEAE  
Restio bifidus Thunb., Sugden s.n., Cp, h, gr
- Rhodocoma fruticosus Thunb., Sugden s.n., Cp/N, h, gr
- COMMELINACEAE  
Commelina sp., Bruyns 3393, BOL, W, h
- JUNCACEAE  
Juncus  
acutus L., Sugden s.n., Cp, h
- dregeanus Kunth, Shearing s.n., SCH, F/S/G, h
- exsertus Buchenau subsp. exsertus, Randall 27356, SCH, W, h, hy
- rigidus Desf., Bengis 461, SCH, W, h, hy
- rupestris Kunth., Sugden s.n., Cp, h, hy
- punctorius L.f., Shearing s.n., SCH, NK/SK/F, h, hy
- COLCHICACEAE  
Androcymbium melanthioides Willd. var. melanthioides, Shearing s.n., SCH, W, g
- Ornithoglossum undulatum Sweet, Shearing s.n., SCH, F, g
- ASPHODELACEAE (Part A)  
Bulbine  
abyssinica A.Rich., Bengis 430, Rubin 26776, KRNP, W, h, su
- filifolia Baker, Bruyns 3413, BOL, W, g, su
- frutescens (L.) Willd., Bengis 335, SCH, W, h, su
- narcissifolia Salm-Dyck, Bengis 361, SCH, W, h, su
- Trachyandra  
acoeksii Oberm., Shearing s.n., SCH, NK, +, dw
- saltii (Baker) Oberm. var. saltii, Bruyns 3343, BOL, W, h
- thyrsoides (Baker) Oberm., Shearing s.n., SCH, F, h
- HYACINTHACEAE (Part A)  
Schizobasis intricata (Baker) Baker, Palmer & Van Ginkel 2702, GRA, W, g, [c]
- ERIOSPERMACEAE  
Eriosperrum  
capense (L.) Thunb. subsp. capense, Bruyns 3983, BOL, NK/SK, g
- paradoxum (Jacq.) Ker Gawl., Bruyns 3394, BOL, NK/SK/F, g

## ASPHODELACEAE (Part B)

## Kniphofia

- caulescens *Baker, Bengis 381*, SCH, NK/G (GK), h  
 uvaria (*L.*) *Oken, Palmer & Van Ginkel 2913*, SCH, GRA, W, h

## Aloe

- aristata *Haw., Bruyns s.n.*, BOL, W, h, su  
 broomii *Schönlund* var. *broomii*, *Bengis 489*, SCH, NK/G (GK/UK),  
 dw, h, su  
 claviflora *Burch., Shearing s.n.*, SCH, NK, +, h, su  
 longistyla *Baker, Bruyns 3424*, BOL, GK, +, h, su  
 microstigma *Salm-Dyck, Shearing s.n.*, SCH, NK/Sth (GK), sh, su  
 microstigma × claviflora, BOL, NK/Sth (UK), h, su  
 striata *Haw.* subsp. *striata*, *Shearing s.n.*, SCH, NK/F, sh, dw, su  
 striatula *Haw.* var. *striatula*, *Palmer & Van Ginkel 2495*, GRA, NK/G,  
 sh, su  
 variegata *L., Shearing s.n.*, BOL, W, h, su  
 Gasteria disticha (*L.*) *Haw., Bruyns 3974*, BOL, NK/F, h, su  
 Astroloba herrei *Uitewaal, Bruyns 3419*, BOL, Cp, su  
 Haworthia  
 marumiana *Uitewaal*, Cp, su  
 nigra (*Haw.*) *Baker, Bruyns 3381*, BOL, GK, +, su  
 semiviva (*Poelln.*) *M.B.Bayer, Bruyns 3993*, BOL, NK/Sth, su  
 venosa (*Lam.*) *Haw.* subsp. *tessellata* (*Haw.*) *M.B.Bayer s.n., Bruyns*  
*3379*, BOL, Cp, su  
 sp., *Bruyns 3383*, BOL, NK/SK, su

## ALLIACEAE

## Tulbaghia

- capensis *L., Bruyns 4028*, BOL, F, h  
 leucantha *Baker, Bruyns 3350*, SCH, BOL, NK/SK/F/G, h

## HYACINTHACEAE (Part B)

## Albica

- juncifolia *Baker, Braack 81*, KRNP, NK/F (GK), g  
 setosa *Jacq., Shearing s.n.*, SCH, NK (GK/UK), +, g

Urginea sp., *Bruyns 3977*, BOL, ?, gDrimia anomala (*Baker*) *Benth., Bruyns 3423*, BOL, Cp/N, gRhadamanthus platyphyllus *B.Nord.*, BOL, NK/S, gDipcadi viride (*L.*) *Moench, Palmer & Van Ginkel 2608*, GRA, W, g

## Scilla sp., ?, g

## Ornithogalum

- hispidum *Hornem.* subsp. *hispidum*, *Bruyns 3987*, BOL, NK/SK/F  
 (GK), g

juncifolium *Jacq., Shearing s.n.*, SCH, W, gtenuifolium *F.Delarocche* subsp. *aridum* *Oberm., Shearing s.n.*, SCH,  
 NK/S, gzebrinellum *U. & D.Müll.-Doblies, Bruyns 3985*, BOL, NK/SK (GK), g  
 sp., *Bruyns 3372*, BOL, ?, gLedebouria sp., *Rishworth 53, KRNP27653*, ?, gVeltheimia capensis (*L.*) *DC., Shearing s.n.*, SCH, NK/SK (GK), gLachenalia sp., *Shearing s.n.*, SCH, ?, g

## Massonia

echinata *L.f., Palmer & Van Ginkel 2915*, GRA, NK/F, g, [su]pustulata *Jacq., Bruyns 3358*, BOL, NK/SK/F, g, [su]

## ASPARAGACEAE

## Asparagus

acocksii *Jessop, Shearing s.n.*, SCH, W, sh (cl)aethiopicus *L., Palmer & Van Ginkel 1861, Rubin 26743*, GRA,  
 KRNP, F/Sth, clafricanus *Lam., Shearing s.n.*, SCH, W, clburchellii *Baker, Shearing s.n.*, SCH, NK/SK/F, shcapensis *L.* var. *capensis*, *Palmer & Van Ginkel 1850, 2519*, SCH,  
 GRA, NK/F/S, shcooperi *Baker, Rubin 88*, KRNP, W, sh, h, clcrassicladus *Jessop, Palmer & Van Ginkel 2122, 2690*, GRA, Cp, su  
 exuvialis *Burch.* forma *exuvialis*, *Bayer 145, Palmer & Van Ginkel*  
*1836*, GRA, NK/S/Sth, shglaucus *Kies, Rubin 26739*, KRNP, NK, +, shkraussianus (*Kunth*) *J.F.Macbr., Bruyns 3357*, BOL, F, cllaricinus *Burch.*, W, shmicroraphis (*Kunth*) *Baker, Rubin 26790*, KRNP, W, shmucronatus *Jessop, Shearing s.n.*, SCH, NK/SK/F/G south of 28, shretrofractus *L., Shearing s.n.*, SCH, NK/SK, clstriatus (*L.f.*) *Thunb., Shearing s.n., Rubin s.n.*, KRNP, SCH, NK/Sth, shsuaveolens *Burch.*, *Rubin 97*, KRNP, W, sh

## AMARYLLIDACEAE

## Haemanthus

- humilis *Jacq.* subsp. *humilis*, *Shearing s.n.*, SCH, W, g  
 sp., *KRNP27402*, ?, g

- Boophane disticha (*L.f.*) *Herb., Shearing s.n.*, SCH, W, g  
 Strumaria gemmata *Ker Gawl., Shearing s.n.*, SCH, NK/SK/F/S, g  
 Gethyllis sp., *Rubin 41*, KRNP, NK/SK, g  
 Ammocharis coranica (*Ker Gawl.*) *Herb., Shearing s.n.*, SCH, W, g  
 Cyrtanthus smithiae *Watt ex Harv., Bruyns 3989*, BOL, ST, h, g

## HYPOXIDACEAE

- Empodium sp., *Braack 134*, ?, g

## IRIDACEAE

- Romulea macowanii *Baker* var. *macowanii*, *Braack 79, Palmer & Van*  
*Ginkel 2164*, GRA, NK/G (UK), h, g

## Moraea

- ciliata (*L.f.*) *Ker Gawl., Braack 80*, KRNP, W, h, g  
 crispata *Thunb., Bruyns 3356*, BOL, NK/F, h, g  
 polystachya (*Thunb.*) *Ker Gawl., Shearing s.n.*, SCH, W, h, g

## Homeria

- cookii *L.Bolus, Bruyns 3361*, BOL, W, h, g  
 miniata (*Andrews*) *Sweet, Shearing s.n.*, SCH, NK/SK/F (GK), h, g  
 Hesperantha radiata (*Jacq.*) *Ker Gawl., Bruyns 3346*, BOL, W, h, g  
 Ixia marginifolia (*Salisb.*) *G.J.Lewis, Bengis 375*, KRNP, Cp, h, g  
 Tritonia karooica *M.P.de Vos, Shearing s.n.*, SCH, NK/SK/F, h, g  
 Babiana hypogea *Burch.* var. *ensifolia* *G.J.Lewis, Shearing s.n.*, SCH,  
 NK, +, h, g

## ORCHIDACEAE

## Holothrix

- grandiflora (*Sond.*) *Rchb.f., Bruyns 3983*, BOL, SK, h, g  
 villosa *Lindl.* var. *villosa*, *Bengis 444*, KRNP, NK/F, h, g  
 Anochilus flanaganii (*Bolus*) *Rolfe, Bengis 404*, KRNP, G, g

## DICOTYLEDONAE

## SALICACEAE

- Salix mucronata *Thunb.* subsp. *capensis* (*Thunb.*) *Immelman, Shearing*  
*s.n.*, SCH, W, t  
 Populus alba *L., Sugden s.n.*, W, t, \*

## URTICACEAE

- Urtica urens *L., Shearing s.n.*, SCH, W, h  
 Forsskaolea candida *L.f., Rubin 26798, 26923*, KRNP, NK/SK, h

## LORANTHACEAE

- Moquiella rubra (*A.Spreng.*) *Balle, Rubin 26997*, KRNP, W, sh, p  
 Septulina glauca (*Thunb.*) *Tiegh., Rubin 26935*, KRNP, NK/SK/F, sh, p

## VISCACEAE

## Viscum

- capense *L.f.* subsp. *capense*, *Randall 27336*, W, sh, p  
 continuum *E.Mey. ex Sprague, Palmer & Van Ginkel 2476*, GRA,  
 NK/F/S (GK), sh, p  
 rotundifolium *L.f., Palmer & Van Ginkel 1815*, GRA, W, sh, p

## SANTALACEAE

## Thesium

- acutissimum *A.DC., Rubin 26770*, KRNP, W, h, p, [sh]  
 gnidiaceum *A.DC.* var. *gnidiaceum*, *Bengis 343*, KRNP, G/Sth, h, p,  
 [dw]  
 hystricoides *A.W.Hill, Bengis 459*, KRNP, SK, dw, p, [sh]  
 imbricatum *Thunb., Rubin 3225*, KRNP, W, dw, p, [sh]  
 lineatum *L.f., Palmer & Van Ginkel 1816, 2801, Rubin 26732*, GRA,  
 KRNP, NK/SK, sh, p, [dw]  
 oresigenum *Compton*, KRNP, NK/F/G (GK), sh, p, [h]  
 triflorum *Thunb. ex L.f., Shearing s.n.*, SCH, NK/F/S, h, p, [cl]

## POLYGONACEAE

- Rumex crispus *L., Rubin 24*, KRNP, W, sc, \*

## CHENOPODIACEAE

## Chenopodium

- album *L., Palmer & Van Ginkel 2492, 2689, 2727, 2785*, GRA,  
 KRNP, W, h  
 ambrosioides *L., Palmer & Van Ginkel 2798*, GRA, W, h  
 foliosum *Asch., Rubin 3245*, KRNP, GK, +, h  
 glaucum *L., Rubin 3255*, KRNP, W, h

## Atriplex

- lindleyi *Moq.*  
 subsp. *inflata* (*F.Muell.*) *Paul G.Wilson, Shearing s.n.*, SCH, W, h  
 subsp. *quadripartita* *Paul G.Wilson*, Sth, h  
 nummularia *Lindl.* subsp. *nummularia*, *Shearing s.n.*, SCH, NK/SK/G,  
 sh, \*  
 semibaccata *R.Br.* var. *semibaccata*, *Shearing s.n.*, SCH, W, h, sh



## Atriplex (cont.)

- vestita (Thunb.) Aellen  
var. appendiculata Aellen, Rubin 26748, KRNP, W, sh  
var. inappendiculata Aellen, Palmer & Van Ginkel 2483, GRA, W, sh

## Bassia

- diffusa (Thunb.) Kuntze, Shearing s.n., GK, +, h  
salsoloides (Fenzl) A.J.Scott, Palmer & Van Ginkel 2788, GRA, NK/SK/Sth, dw

- Suaeda fruticosa (L.) Forssk., Palmer & Van Ginkel 2474, GRA, KRNP, NK/S, dw

## Salsola

- aphylla L.f., Shearing s.n., SCH, NK/SK/G, sh  
calluna Fenzl ex C.H.Wright, Shearing s.n., SCH, NK, +, dw  
dealata Botsch., Shearing s.n., SCH, NK, +, dw  
kali L., Bengis 514, Randall 27415, KRNP, W, h  
minutifolia Botsch., Bengis 331, KRNP, NK, +, dw  
smithii Botsch., Shearing s.n., SCH, NK, +, dw  
tuberculata (Moq.) Fenzl, Rubin s.n., KRNP, NK, +, dw

## AMARANTHACEAE

- Amaranthus praetermissus Brenan, Palmer & Van Ginkel 2100, Rishworth 40, Rubin 26730, GRA, KRNP, NK/SK/G, h

- Sericocoma avolans Fenzl, Palmer & Van Ginkel 2838, Rishworth 4, Rubin 26710, GRA, KRNP, NK/SK (GK), dw

## NYCTAGINACEAE

- Boerhavia cordobensis Kuntze, Palmer & Van Ginkel 2769, GRA, W, h

## AIZOACEAE

## Limeum

- aethiopicum Burn. subsp. aethiopicum var. aethiopicum, Rubin s.n., KRNP, NK/SK/Sth (GK), h, [dw]  
humifusum Friedrich, GRA, NK, +, dw

## Gisekia

- pharnacioides L. var. pharnacioides, Palmer & Van Ginkel 2787, Rubin 26928, GRA, KRNP, W, h  
sp., KRNP, ?, h

## Pharpaceum

- albens L.f., Rubin 3227, NK/SK, dw  
dichotomum L.f., Rubin s.n., KRNP, W, h, [dw]  
lineare L.f., Palmer & Van Ginkel 2855, GRA, SK/F, h

## Hypertelis

- bowkeriana Sond., Palmer & Van Ginkel 2767, 2877, GRA, W, h  
salsoloides (Burch.) Adamson var. salsoloides, Rishworth 60, KRNP27660, KRNP, W, dw

- Trianthema triquetra Rottler ex Willd. subsp. triquetra var. triquetra, Shearing s.n., SCH, W, h

- Plinthus karoocicus I. Verd., Rubin s.n., KRNP, NK/S, dw

## Galenia

- africana L. var. africana, Randall 27397, KRNP, W, dw  
fruticosa (L.f.) Sond.  
var. fruticosa, Shearing s.n., SCH, NK/SK, dw  
var. prostrata Adamson, Rubin s.n., KRNP, NK/SK, dw  
papulosa (Eckl. & Zeyh.) Sond. var. papulosa, Bengis 456, KRNP, NK/SK, h  
procumbens L.f., Palmer & Van Ginkel 2105, 2694, GRA, NK/SK/Sth, dw  
pubescens (Eckl. & Zeyh.) Druce var. pubescens, Palmer & Van Ginkel 2040, 2447, GRA, W, dw  
sarcophylla Fenzl, Palmer & Van Ginkel 2841, Rubin 26729, GRA, KRNP, NK/SK/G, dw

- Aizoon canariense L., Rubin 26922, KRNP, W, h

## Tetragonia

- echinata Aiton, Palmer & Van Ginkel 2454, Rubin 26716, GRA, NK/Sth, h  
fruticosa L., Braack s.n., KRNP200, NK/SK/Sth, dw  
sarcophylla Fenzl var. sarcophylla, Shearing s.n., SCH, NK/SK/S, dw

## MESEMBRYANTHEMACEAE

- Arenifera spinescens (L.Bolus) H.E.K.Hartmann, GK, +, su

- Aridaria sp., Shearing s.n., SCH, ?, su, h

- Chasmatophyllum musculinum (Haw.) Dinter & Schwantes, Shearing s.n., SCH, W, su

## Delosperma

- floribundum L.Bolus, Rubin 38, KRNP, G, su, dw  
pruinatum (Thunb.) J.W.Ingram, Cp, su, dw  
pubipetalum L.Bolus, Rubin 3194, KRNP, GK, +, su, dw  
subincanum (Haw.) Schwantes, Rubin s.n., KRNP, GK, +, su, dw  
versicolor L.Bolus, Shearing s.n., SCH, KRNP, Cp, su, dw

## Drosanthemum

- archeri L.Bolus, Shearing s.n., SCH, SK/F, su

- dejagerae L.Bolus, Bengis 397, KRNP, +, su  
hispidum (L.) Schwantes var. platypetalum (Haw.) Schwantes, Bengis 332, Palmer & Van Ginkel 2449, GRA, NK/SK (GK), su  
lique (N.E.Br.) Schwantes, Shearing s.n., SCH, GK, +, su  
vespertinum L.Bolus var. vespertinum, Braack 57, KRNP, GK, +, su  
Faucaria sp., Rubin 30, KRNP, NK/Sth, su

## Hereroa

- concava L.Bolus, Bruyns 3375, BOL, KRNP, +, su  
stanleyi (L.Bolus) L.Bolus, Shearing s.n., SCH, NK, +, su

## Malephora

- crocea (Jacq.) Schwantes var. crocea, Rubin s.n., KRNP, NK (UK/BK), +, su  
lutea (Haw.) Schwantes, Palmer & Van Ginkel 2482, GRA, GK, +, su

## Mesembryanthemum

- guerichianum Pax, Bengis 507, Shearing s.n., SCH, F/SK/Sth, su  
sp., Shearing s.n., SCH, ?, su

- Nananthus sp., Rubin 26943, KRNP, ?, su

## Pleiospilos

- compactus (Aiton) Schwantes  
subsp. canus (Haw.) H.E.K.Hartmann & Liede, Shearing s.n., SCH, GK, +, su

- subsp. compactus, Bruyns 3428, BOL, GK, +, su

- Prenia tetragona (Thunb.) Gerbaulet, Bengis 508, KRNP, BK, +, su

## Psilocaulon

- absimile N.E.Br., Palmer & Van Ginkel 2481, 2791, GRA, SK, su  
articulatum (Thunb.) Schwantes, Bengis 429, Randall 27400, KRNP, NK/F (UK/GK), su

- utile L.Bolus, Rubin s.n., KRNP, SK/S, su

- Rhynophyllum obliquum L.Bolus, Bruyns 3370, BOL, BK, +, su

## Ruschia

- dejagerae L.Bolus, Bruyns 3348, BOL, KRNP, +, su  
hamata (L.Bolus) Schwantes, Bengis 362, Rubin 26771, KRNP, NK/G/S (BK), su

- intricata H.E.K.Hartmann & Stöber, Braack s.n., KRNP14, GK, +, su

- karrooica (L.Bolus) L.Bolus, Bruyns 3403, BOL, UK, +, su

- parvifolia L. Bol., Shearing s.n., SCH, SK/F, su

- pauciflora L.Bolus, Shearing s.n., SCH, KRNP, +, su

- spinosa (L.) Dehn, Bengis 452, Palmer & Van Ginkel 2683, GRA, NK, +, su

## Sceletium

- anatomicum (Haw.) L.Bolus, Bengis 493, KRNP, UK, +, su

- dejagerae L.Bolus, Shearing s.n., SCH, KRNP, +, su

- emarcidum (Thunb.) L.Bolus ex H.Jacobsen, Shearing s.n., SCH, SK, su

- expansum (L.) L.Bolus, Palmer & Van Ginkel 2504, GRA, GK, +, su

- Stomatium sp., Bruyns 3349, BOL, NK, +, su

## Trichodiadema

- attonsum (L.Bolus) Schwantes, Bengis 352, SCH, NK/G, su

- barbatum (L.) Schwantes, Rubin s.n., KRNP, NK, +, su

- densum (Haw.) Schwantes, Bengis 473, KRNP, GK, +, su

- setuliferum (N.E.Br.) Schwantes var. setuliferum, Rishworth 12, KRNP27638, SCH, GK, +, su

## PORTULACACEAE

## Talinum

- caffrum (Thunb.) Eckl. & Zeyh., Shearing s.n., SCH, NK/G/S, h, su  
sp., Bruyns 3415, BOL, ?, h, su

## Anacampseros

- albidiflora (Haw.) Sims, Rishworth 38, KRNP27638, Rubin 84, NK/SK, h, su

- lanceolata (Haw.) Sweet subsp. lanceolata, Randall 27408, KRNP, W, h, su

- marlothii Poelln., Bruyns 3432, BOL, Cp, h, su

- subnuda Poelln. subsp. subnuda, W, h, su

- telephiastrum DC., Bengis 453, Palmer & Van Ginkel 2836, GRA, W, h, su

- ustulata E. Meyer, Bruyns 3380, BOL, SCH, NK/S, h, su

- Portulaca oleracea L., Palmer & Van Ginkel 2793, GRA, W, h

## CARYOPHYLLACEAE (Part A)

- Cerastium capense Sond., Bengis 385, KRNP, W, h

## ILLECEBRACEAE

- Pollichia campestris Aiton, Shearing 866, SCH, W, h

## CARYOPHYLLACEAE (Part B)

## Silene

- burchellii Oth var. burchellii, Shearing s.n., SCH, W, h

- undulata Aiton, Rubin 3235, KRNP, W, h

## Dianthus

- micropetalus *Ser.*, *Rubin* 26774, KRNP, W, h  
 namaensis *Schinz* var. *namaensis*, *Rubin* 14, KRNP, Cp, h  
 thunbergii *Hooper* forma *thunbergii*, *Palmer & Van Ginkel* 1847, GRA, NK/Sth (GK), h

## RANUNCULACEAE

- Clematis brachiata* *Thunb.*, *Braack* 97, KRNP, W, cl  
*Ranunculus multifidus* *Forssk.*, *Bengis* 448, SCH, W, h

## MENISPERMACEAE

- Cissampelos capensis* *L.f.*, *Palmer & Van Ginkel* 2499, 2730, GRA, NK/F, h, cl

## PAPAVERACEAE

- Argemone ochroleuca* *Sweet* subsp. *ochroleuca*, *Shearing s.n.*, SCH, NK, +, h  
*Papaver aculeatum* *Thunb.*, *Braack* 848, SCH, W, h

## FUMARIACEAE

- Cysticapnos pruinosa* (*Bernh.*) *Liden* (*Phacocapnos pruinosa*), *Rubin* 3250, KRNP, NK/S, h

## BRASSICACEAE

## Heliophila

- carnea* (*Thunb.*) *Steud.*, *Bengis* 351, *Rubin* 26778, SCH, KRNP, W, dw  
*latisiliqua* *E.Mey.* ex *Sond.* var. *latisiliqua*, *Palmer & Van Ginkel* 2471, GRA, NK/F, h  
*suavissima* *Burch.* ex *DC.*, *Palmer & Van Ginkel* 2885, SCH, GRA, W, dw

- Lepidium africanum* (*Burm.f.*) *DC.* subsp. *divaricatum* (*Aiton*) *Jonsell*, W, h  
*Sisymbrium*

- burchellii* *DC.* var. *burchellii*, *Shearing s.n.*, SCH, NK/F, h  
*capense* *Thunb.* × *S. turczaninowii* *Sond.*, *Shearing s.n.*, SCH, KRNP, G, h  
*orientale* *L.*, *Bengis* 426, KRNP, W, h

## CAPPARACEAE

- Cadaba aphylla* (*Thunb.*) *Wild.*, *Braack* 163, *Rubin* 26912, KRNP, W, sh, [t]

## CRASSULACEAE

## Cotyledon

- ??*cuneata* *Thunb.*, *Bruyns photo*, BOL, NK/SK/F, dw, su  
*orbiculata* *L.* var. *orbiculata*, *Bengis* 503, SCH, W, sh, su  
*papillaris* *L.f.*, *Bruyns* 3412, BOL, W, dw, su

## Tylecodon

- reticulatus* (*L.f.*) *Toelken* subsp. *reticulatus*, *Bruyns* 3426, BOL, NK/SK (GK), dw, su  
*wallichii* (*Harv.*) *Toelken*  
 subsp. *ecklonianus* (*Harv.*) *Toelken*, *Shearing s.n.*, SCH, NK/SK (GK), dw, su  
 subsp. *wallichii*, *Bruyns* 3430, BOL, NK/SK (GK), dw, su

## Crassula

- atropurpurea* (*Haw.*) *D.Dietr.*  
 var. *anomala* (*Schönland & Baker f.*) *Toelken*, *Bruyns* 3409, BOL, NK/SK/F, dw, su  
 var. *watermeyeri* (*Compton*) *Toelken*, *Bruyns* 3392, BOL, SK, dw, su  
*barbata* *Thunb.* subsp. *barbata*, *Bengis* 394, KRNP, NK/F (GK), h, su  
*campestris* (*Eckl. & Zeyh.*) *Endl.* ex *Walp.*, *Rubin* 33, KRNP, W, h, su  
*capitella* *Thunb.*  
 subsp. *capitella*, *Rubin* 80, KRNP, NK/G/Sth, h, su  
 subsp. *thyrsiflora* (*Thunb.*) *Toelken*, *Palmer & Van Ginkel* 2123, 2700, BOL, GRA, W, h, su  
*corallina* *Thunb.* subsp. *corallina*, *Bruyns* 3338, BOL, NK/G/S, h, su  
*deltoides* *Thunb.*, *Bruyns* 3389, BOL, UK/BK, +, h, su  
*dependens* *Bolus*, *Palmer & Van Ginkel* 22896, 2918, BOL, GRA, NK/G/S, dw, su  
*exilis* *Harv.* subsp. *cooperi* (*Regel*) *Toelken*, *Bruyns* 3374, BOL, NK/G (GK), su, h  
*expansa* *Dryand.* subsp. *expansa* var. *expansa*, *Palmer & Van Ginkel* 2498, 2588, SCH, BOL, GRA, W, su, h  
*hemisphaerica* *Thunb.*, *Bruyns* 3384, BOL, NK (GK/BK), +, h, su  
*montana* *Thunb.* subsp. *quadrangularis* (*Schönland*) *Toelken*, *Bruyns* 3386, BOL, GK, +, h, su  
*muricata* *Thunb.*, *Rubin* 48, KRNP, NK/F (GK), dw, su  
*muscosa* *L.*  
 var. *muscosa*, *Bruyns* 3378, BOL, W, h, su  
 var. *parvula* (*Eckl. & Zeyh.*) *Toelken*, *Rubin* 3223, BOL, F/Sth/G, h, su  
*memorosa* (*Eckl. & Zeyh.*) *Endl.* ex *Walp.*, *Bruyns s.n.*, BOL, W, h, su  
*nudicaulis* *L.* var. *platyphylla* (*Harv.*) *Toelken*, *Bruyns* 3387, BOL,

GK, +, dw, su

- papillosa* *Schönland & Baker f.*, *Bruyns* 3388, BOL, NK/Sth (GK/UK), h, su

- pyramidalis* *Thunb.*, *Shearing s.n.*, NK (GK/UK), +, h, su  
*rupestris* *Thunb.* subsp. *rupestris*, *Shearing s.n.*, *Bruyns s.n.*, BOL, NK/F/S, dw, su

- subaphylla* (*Eckl. & Zeyh.*) *Harv.* var. *subaphylla*, *Bruyns* 3382, BOL, NK/SK/Sth, dw, su

tetragona *L.*

- subsp. *acutifolia* (*Lam.*) *Toelken*, *Shearing* 873, NK/SK/Sth, dw, su  
 subsp. *connivens* (*Schönland*) *Toelken*, *Bruyns* 3418, BOL, NK/Sth, dw, su

- subsp. *rudis* (*Schönland & Baker f.*) *Toelken*, *Bruyns* 3367, BOL, NK/G, dw, su

- subsp. *tetragona*, *Bruyns* 3391, BOL, NK/SK, dw, su

## Adromischus

- filicaulis* (*Eckl. & Zeyh.*) C.A.Sm. subsp. *filicaulis*, *Bruyns* 3431, BOL, SK, dw, su

- humilis* (*Marloth*) *Poelln.*, *Bruyns* 4029, BOL, NK, +, dw, su

- sp., *Rubin* 82, KRNP, ?

- sphenophyllus* C.A.Sm., *Bruyns* 3429, BOL, NK/F/S, dw, su

- triflorus* (*L.f.*) *A.Berger*, *Shearing s.n.*, BOL, GK, +, dw, su

## MONTINIACEAE

- Montinia caryophyllacea* *Thunb.*, *Randall* 27349, NK/SK/F, sh, [t]

## ROSACEAE

- Rubus ludwigii* *Eckl. & Zeyh.* subsp. *ludwigii*, *Randall* 27313, *Rubin* 3353, SCH, KRNP, W, sh

- Cliffortia arborea* *Marloth*, *Palmer & Van Ginkel* 2740, GRA, BK, +, R, t

## FABACEAE

- Acacia karroo* *Hayne*, *Randall* 27383, SCH, W, t, sh

- Prosopis glandulosa* *Torr.* var. *glandulosa*, *Randall* 27387, SCH, W, t, sh  
*Lotononis*

- azureoides* *B.-E.van Wyk*, *Shearing s.n.*, SCH, NK, +, dw  
*caeruleascens* (*E.Mey.*) *B.-E.van Wyk*, *Shearing s.n.*, SCH, G/Sth, sh, [dw]  
 cf. *carnea* (*Eckl. & Zeyh.*) *Benth.* subsp. *carnea*, *Bengis* 442, SCH, G/Sth, sh, dw

- decumbens* (*Thunb.*) *B.-E. van Wyk* subsp. *decumbens*, *Sugden s.n.*, Cp  
*laxa* *Eckl. & Zeyh.*, *Shearing s.n.*, SCH, S/G, h

- parviflora* (*P.J.Bergius*) *D.Dietr.*, *Bengis* 474, KRNP, SK/F, h  
*pungens* *Eckl. & Zeyh.*, *Palmer & Van Ginkel* 2699, 2881, GRA, W, h  
 sp., *Rubin* 26721, KRNP, ?

- tenella* (*E.Mey.*) *Eckl. & Zeyh.*, *Shearing s.n.*, SCH, NK/SK/F/S, h  
*Aspalathus acicularis* *E.Mey.* subsp. *acicularis*, *Rubin* 26764, KRNP, W, sh, dw

- Dichilus gracilis* *Eckl. & Zeyh.*, *Shearing s.n.*, SCH, NK/S, h, dw

## Melolobium

- candicans* (*E.Mey.*) *Eckl. & Zeyh.*, *Palmer & Van Ginkel* 1855, GRA, W, sh, dw, h

- microphyllum* (*L.f.*) *Eckl. & Zeyh.*, *Palmer & Van Ginkel* 2157, *Rubin* 26759, GRA, KRNP, W, sh, dw

## Argyrolobium

- collinum* *Eckl. & Zeyh.*, *Shearing s.n.*, SCH, F/SK/S, dw

- filiforme* *Eckl. & Zeyh.*, KRNP, F, h

- pauciflorum* *Eckl. & Zeyh.* var. *pauciflorum*, *Rubin* 26754, SCH, KRNP, W, h

- pumilum* *Eckl. & Zeyh.*, *Shearing s.n.*, SCH, NK/F (GK), dw

- Medicago laciniata* (*L.*) *Mill.*, *Shearing s.n.*, SCH, W, h, \*

- Melilotus indica* (*L.*) *All.*, *Shearing s.n.*, SCH, W, h, \*

## Trifolium

- africanum* *Ser.* var. *africanum*, *Shearing s.n.*, SCH, W, h

- burchellianum* *Ser.*, *Sugden s.n.*, W, h

- Indigastrium argyraeum* (*Eckl. & Zeyh.*) *Schrire*, *Shearing s.n.*, SCH, W, h

## Indigofera

- alternans* *DC.* var. *alternans*, *Rubin* 26740, KRNP, W, h

- denudata* *L.f.*, *Sugden s.n.*, Cp

- heterophylla* *Thunb.*, *Palmer & Van Ginkel* 1856, GRA, NK/F (GK), dw

- meyeriana* *Eckl. & Zeyh.*, *Rubin* 3214, KRNP, W, sh, dw

- nigromontana* *Eckl. & Zeyh.*, *Rishworth s.n.*, KRNP27666, SCH, NK, +

- pungens* *E.Mey.*, KRNP, W, dw, sh

- sessiliflora* *DC.*, *Palmer & Van Ginkel* 2737, *Rubin* 3191, GRA, KRNP, NK/Sth (GK), h

## Sutherlandia

- frutescens* (*L.*) *R.Br.*, *Palmer & Van Ginkel* 2516, 2914, SCH, GRA, NK/SK/F, sh, dw

- humilis* *E.Phillips & R.A.Dyer*, NK/S, dw, sh

## Sutherlandia (cont.)

- microphylla Burch. ex DC., *Shearing s.n.*, SCH, NK/SK/G, sh  
 Lessertia  
 cf. annularis Burch., *Shearing s.n.*, SCH, NK/SK/F, h  
 inflata Harv., *Bengis 364*, SCH, UK, +, h

## GERANIACEAE

## Geranium

- harveyi Briq., *Palmer & Van Ginkel 2144, 3261*, GRA, KRNP, G, h  
 incanum Burm.f. var. incanum, *Shearing s.n.*, SCH, W, h

## Sarcocaulon

- camdeboense Moffett, *Rishworth s.n.*, KRNP27663, *Rubin 26931*,  
 NK, +, dw, su

- crassicaule Rehm, *Shearing s.n.*, SCH, NK/SK, dw, su  
 patersonii (DC.) G.Don, NK/Sth, dw, su  
 salmoniflorum Moffett, *Braack 40*, SCH, NK/S, dw, su  
 vanderietiae L.Bolus, KRNP, NK/Sth (GK), dw, su

- Erodium cicutarium (L.) L'Hér., *Bengis 77, 371*, SCH, W, h

## Pelargonium

- abrotanifolium (L.f.) Jacq., *Braack 154, Rubin 26909*, KRNP, W, sh, dw  
 alternans J.C.Wendl., *Shearing s.n.*, SCH, NK/SK/F, dw, su  
 althaeoides (L.) L'Hér., *Rubin 3249*, KRNP, W, dw  
 aridum R.A.Dyer, *Bruyns 3347*, BOL, S/G/Sth, dw  
 articulatum (Cav.) Willd., *Bruyns 3331*, BOL, NK/SK/F, g  
 denticulatum Jacq., *Bengis 435*, F, +, sh  
 exhibens Vorster, *Shearing s.n.*, SCH, NK/S, R, dw  
 glutinosum (Jacq.) L'Hér., *Shearing s.n.*, SCH, NK/F/S, sh  
 griseum R.Knuth, *Bengis 355, Braack 191, Rubin 26761*, KRNP, NK  
 (GK/UK), +, dw

- grossularioides (L.) L'Hér., *Bengis 372, Braack 186*, SCH, W, h  
 hypoleucum Turcz., *Bruyns 3324*, BOL, F, h

- karooicum Compton & P.E.Barnes, *Bruyns 3751*, BOL, SCH,  
 NK/SK, dw, su

- cf. leucophyllum Turcz., NK/S, h

- minimum (Cav.) Willd., *Bengis 478, Rubin 27*, KRNP, W, h  
 multicaule Jacq. subsp. multicaule, *Bruyns 3327*, BOL, W, dw

- nanum L'Hér., *Bruyns 3325*, BOL, W, h  
 odoratissimum (L.) L'Hér., *Braack 152, Shearing 846*, SCH, W, dw

- ramosissimum (Cav.) Willd., *Shearing s.n.*, KRNP, NK/SK (UK), dw  
 senecioides L'Hér., *Shearing s.n.*, SCH, F/SK/S, h

- tetragonum (L.f.) L'Hér., *Shearing s.n.*, SCH, NK/SK/F/S, su, sc

## OXALIDACEAE

## Oxalis

- lanata L.f. var. lanata, *Bengis 400*, F, g  
 commutata Sond. var. commutata, *Shearing s.n.*, SCH, SK/F, g  
 melanosticta Sond. var. melanosticta, *Palmer & Van Ginkel 2704*,  
 GRA, NK/SK/F, g

- cf. obtusa Jacq., *Braack 171*, KRNP, NK/SK/F, g  
 pes-caprae L. var. pes-caprae, *Shearing s.n.*, SCH, NK/SK/F, g

## LINACEAE

## Linum

- aethiopicum Thunb., *Palmer & Van Ginkel 2674, 2813*, GRA,  
 NK/F/S (GK), h, [dw]

- thunbergii Eckl. & Zeyh., *Shearing 841*, W, h

## ZYGOPHYLLACEAE

## Zygophyllum

- chrysopteron Retief, *Rubin 103*, NK, +, sh, dw  
 gilfillanii N.E.Br., *Palmer & Van Ginkel 2104, 2902, Rubin 26727*,  
 GRA, KRNP, Cp/FS, sh, dw, [su]

- incrustatum E.Mey. ex Sond., *Palmer & Van Ginkel 2779, Rubin*  
*26706*, GRA, KRNP, NK, +, sh, [dw]

- lichtensteinianum Cham. & Schldl., *Palmer & Van Ginkel 2490*,  
*Rubin 26797*, GRA, KRNP, NK/F, dw

- microcarpum Licht. ex Cham. & Schldl., *Shearing s.n.*, SCH,  
 NK/SK/F, sh, dw

- microphyllum L.f., *Palmer & Van Ginkel 2861*, GRA, SK, dw  
 retrofractum Thunb., *Palmer & Van Ginkel 2087, 2784, Rubin 26785*,  
 GRA, KRNP, NK/SK/F, dw

- Augea capensis Thunb., *Shearing s.n.*, SCH, NK/SK, dw, su

- Tribulus terrestris L., *Randall 27389*, SCH, W, h

## POLYGALACEAE

## Polygala

- asbestina Burch., KRNP27657, *Rishworth 57, Rubin 26746*, GK, +,  
 dw, [h]

- bowkeriae Harv., *Shearing s.n.*, SCH, NK, +, K, dw  
 ephebroides Burch., *Rubin 26738, 26756*, SCH, KRNP, W, sh, [dw]

- hottentotta C.Presl, W, h, [dw]

- leptophylla Burch., *Palmer & Van Ginkel 2688, 2848*, GRA, W, dw, [h]

- serpentaria Eckl. & Zeyh., *Rubin 77*, KRNP, G, h  
 virgata Thunb. var. virgata, *Shearing s.n.*, SCH, W, sh, [dw]  
 sp., *Rubin 267017*, KRNP, ?

- Muraltia macrocarpa Eckl. & Zeyh., *Palmer & Van Ginkel 3260*, SCH,  
 GRA, GK, +, sh, [dw]

## EUPHORBIACEAE

## Clutia

- marginata E.Mey. ex Sond., *Rubin 3224*, KRNP, NK/F, sh, dw  
 thunbergii Sond., *Palmer & Van Ginkel 2888*, GRA, NK/SK (GK), dw

## Euphorbia

- braunsii N.E.Br., *Shearing s.n.*, SCH, NK (GK/UK), +, dw, su  
 burmannii E.Mey. ex Boiss., *Shearing s.n.*, SCH, NK/SK/F/S, dw, su

- clavarioides Boiss. var. clavarioides, *Bruyns 3366*, BOL, W, dw, su  
 decepta N.E.Br., *Shearing s.n.*, SCH, NK/S, dw, su

- decussata E.Mey. ex Boiss., *Bruyns s.n., Braack 72*, SK, dw, su  
 hypogaea Marloth, *Dyer 4109*, GRA, GK, +, dw, su

- mauritanica L. var. mauritanica, *Rubin s.n., Bruyns 3245*, BOL, W,  
 sh, dw, su

- rectirama N.E.Br., *Braack s.n., KRNP131*, BOL, NK/S, dw, su  
 stellispina Haw., *Shearing s.n.*, SCH, BK, +, sh, dw, su

- stolonifera Marloth, *Bruyns 3355*, BOL, GK, +, dw, su  
 wilmaniae Marloth, *Bruyns 3976*, BOL, NK/S (UK), dw, su

- sp., *Bengis 490*, ?

- Chamaesyce inaequilatera (Sond.) Sojak, *Palmer & Van Ginkel 2812*,  
 GRA, W, h

## ANACARDIACEAE

## Rhus

- burchellii Sond. ex Engl., *Palmer & Van Ginkel 1853, 2725*, GRA, W,  
 sh, [t]

- dregeana Sond., *Randall 27362*, SCH, W, sh, [t]

- erosa Thunb., W, sh, [t]

- lancea L.f., *Bengis 420*, SCH, W, t, [sh]

- longispina Eckl. & Zeyh., *Shearing s.n.*, SCH, NK/F/S (GK), sh, [t]

- lucida L. forma lucida, *Palmer & Van Ginkel 2760*, GRA, F/Sth/G,  
 sh, [t]

- pyroides Burch. var. pyroides, *Shearing s.n.*, SCH, W, t, sh

- refracta Eckl. & Zeyh., *Shearing s.n.*, SCH, NK/Sth (GK), sh, [t]

- undulata Jacq., *Bengis 327*, KRNP, W, sh, [t]

## CELASTRACEAE

## Maytenus

- heterophylla (Sond.) Marais, *Palmer & Van Ginkel 1828, 2082*,  
 GRA, KRNP, W, t, sh

- undata (Thunb.) Blakelock, *Palmer & Van Ginkel 2518*, GRA, W, t, sh

## SAPINDACEAE

- Cardiospermum sp., *Rubin 3178*, KRNP, ?, cl

## MELIANTHACEAE

- Melianthus comosus Vahl, *Palmer & Van Ginkel 2098, 2140*, GRA, W,  
 sh, [t]

## RHAMNACEAE

- Rhamnus prinoides L'Hér., *Rubin 3259*, KRNP, W, t, sh

## TILIACEAE

- Grewia robusta Burch., *Palmer & Van Ginkel 1841, 2759*, GRA, W, sh

## MALVACEAE

- Abutilon sonneratianum (Cav.) Sweet, *Palmer & Van Ginkel 2894*,  
 SCH, GRA, W, sh, [h]

## Anisodonteia

- capensis (L.) Bates, *Rubin 19*, SCH, NK (GK/UK), +, sh

- malvastroides (Baker f.) Bates, *Palmer & Van Ginkel 2134*, SCH,  
 GRA, Cp, sh

- triloba (Thunb.) Bates, *Bengis 440, Rubin 26796*, KRNP, NK/SK, sh  
 Malva parviflora L. var. parviflora, *Shearing s.n.*, SCH, W, h, \*

## Hibiscus

- aridus R.A.Dyer, *Sugden s.n.*, Cp,

- pusillus Thunb., *Palmer & Van Ginkel 2721*, GRA, W, h

- Radyera urens (L.f.) Bullock, *Bengis 498*, SCH, W, sh, [h]

## STERCULIACEAE

## Hermannia

- abrotanoides Schrad., *Sugden s.n.*, Cp,

- alnifolia L., *Braack 33*, KRNP, NK/SK/F, dw

- althaeifolia L., *Braack 156*, SCH, NK/SK/F, h

- angularis Jacq., *Palmer & Van Ginkel 2807*, GRA, NK/F (GK), dw

- burkei Burt Davy, S, h, [cl]

- cernua Thunb. subsp. jacobefolia (Turcz.) De Winter, *Shearing s.n.*,  
 SCH, NK/S, h

## Hermannia (cont.)

- coccocarpa (Eckl. & Zeyh.) Kuntze, Braack s.n., KRNP91, Rubin 3198, SCH, W, h  
 comosa Burch. ex DC., Bengis 415, W, h  
 cuneifolia Jacq. var. cuneifolia, Braack 23, Rubin 26711, KRNP, SCH, W, dw  
 depressa N.E.Br., Palmer & Van Ginkel 2811, GRA, W, h  
 desertorum Eckl. & Zeyh., Palmer & Van Ginkel 1822, 2865, Rubin 26741, GRA, KRNP, NK/SK/F, dw  
 erodioides (Burch. ex DC.) Kuntze, Palmer & Van Ginkel 1843, Rubin 267191, 26924, KRNP, NK/S, h  
 filifolia L.f. var. filifolia, Palmer & Van Ginkel 2708, 2709, Rubin 26702, 26745, SCH, GRA, KRNP, W, dw  
 filifolia L.f. var. grandicalyx I. Verd., Shearing, SCH, NK/F/S, dw  
 grandiflora Aiton, Shearing s.n., GRA, KRNP, S, sh, [dw]  
 holosericea Jacq., Shearing s.n., SCH, NK/F/S (GK), dw, [sh]  
 johanssenii N.E.Br., Shearing s.n., SCH, SK, dw  
 linearifolia Harv., Shearing s.n., SCH, W, dw, [sh]  
 pulchella L.f., Braack 12, NK/STh, dw  
 spinosa E.Mey. ex Harv., Palmer & Van Ginkel 2460, Rubin 26733, GRA, KRNP, NK, +, dw  
 vestita Thunb., Palmer & Van Ginkel 1866, 2820, SCH, GRA, NK (GK/UK), +, dw

## TAMARICACEAE

- Tamarix usneoides E.Mey. ex Bunge, Shearing s.n., SCH, SK, sh, [t]

## FLACOURTIACEAE

- Kiggelaria africana L., Bengis 309, SCH, W, t, [sh]

## CACTACEAE

- Opuntia ficus-indica (L.) Mill., Shearing s.n., SCH, W, t, sh, su, \*

## THYMELAEACEAE

## Gnidia

- capitata L.f., Rubin 26925, KRNP, W, sh, [dw]  
 cuneata Meisn., Palmer & Van Ginkel 2862, 2837, GRA, W, sh, [dw]  
 deserticola Gilg, Braack 38, SCH, NK/F/S, sh, [dw]  
 meyeri Meisn., Bengis 457, SCH, SK/F, sh, dw  
 polycephala (C.A.Mey.) Gilg, Shearing s.n., SCH, NK/SK/F/G/S, dw, h

## Passerina

- montana Thoday, Rubin 27034, KRNP, W, sh, [dw]  
 vulgaris Thoday, Rubin s.n., Shearing s.n., KRNP, W, sh, [dw]

## MYRTACEAE

- Myrtus communis L., Braack 164, W, sh, \*

## ONAGRACEAE

- Epilobium capense Buchinger ex Hochst., Shearing s.n., SCH, W, h  
 Oenothera rosea L'Hér. ex Aiton, Shearing s.n., SCH, W, h, \*

## ARALIACEAE

- Cussonia paniculata Eckl. & Zeyh. subsp. paniculata, Bengis 495, SCH, W, t

## APIACEAE

- Conium chaerophylloides (Thunb.) Sond., Bengis 401, W, h  
 Heteromorpha  
 arborescens (Spreng.) Cham. & Schltdl.  
 var. arborescens, Shearing s.n., SCH, F/SK/S, W, sh  
 var. abyssinica (A.Rich.) H. Wolff, Rubin 2693, 26933, KRNP, W, sh  
 Deverra denudata (Viv.) Pfisterer & Podlech subsp. aphylla (Cham. & Schltdl.) Pfisterer & Podlech, Braack s.n., KRNP128, W, dw, [h]  
 Berula erecta (Huds.) Coville subsp. thunbergii (DC.) B.L. Burtt, Randall 27320, Shearing 910, SCH, Cp, h, hy  
 Annesorhiza filicaulis Eckl. & Zeyh., Shearing 857, SCH, Cp, h  
 Peucedanum sp., Shearing s.n., SCH, ?, h

## PRIMULACEAE

- Samolus sp., Shearing s.n., Hobson 27385, W, h

## EBENACEAE

## Euclea

- coriacea A.DC., Palmer & Van Ginkel 2872, GRA, NK/G (GK/UK), sh, [t]  
 crispa (Thunb.) Gürke subsp. crispa, Shearing s.n., SCH, W, t, sh  
 undulata Thunb. var. undulata, Randall 27393, SCH, W, t, sh  
 Diospyros  
 austro-africana De Winter var. austro-africana, Palmer & Van Ginkel 2148, 2743, Rubin 26749, GRA, SCH, W, sh  
 lycioides Desf. subsp. lycioides, Bengis 315, SCH, W, sh

## OLEACEAE

- Olea europaea L. subsp. africana (Mill.) P.S. Green, Shearing s.n., SCH, W, t, sh  
 Menodora juncea Harv., Rubin 3195, 26901, KRNP, NK/SK (GK), sh, dw

## LOGANIACEAE

- Gomphostigma incomptum (L.f.) N.E.Br., Palmer & Van Ginkel, GRA, NK, +, sh

## Buddleja

- glomerata H.L. Wendl., Palmer & Van Ginkel 2891, Rubin 26913, SCH, GRA, KRNP, NK (GK/UK), +, sh  
 salviifolia (L.) Lam., Palmer & Van Ginkel 2143, GRA, KRNP, W, t, sh

## GENTIANACEAE

- Sebaea pentandra E.Mey. var. pentandra, Braack s.n., KRNP90, SCH, NK/SK/S/G, h

## APOCYNACEAE

- Carissa haematocarpa (Eckl.) A.DC., Bengis 337, SCH, KRNP, NK/F/S, sh  
 Pachypodium succulentum (L.f.) Sweet, Bengis 308, SCH, NK/STh, sh, su

## ASCLEPIADACEAE

- Microloma armatum (Thunb.) Schltr. var. armatum, Palmer & Van Ginkel 2757, Rubin s.n., GRA, KRNP, NK/SK, sh, dw  
 Xysmalobium gomphocarpoides (E.Mey.) D.Dietr. var. parvilobum Bruyns, Bruyns 3364, BOL, NK (GK/UK), +, h

## Schizoglossum

- aschersonianum Schltr. var. aschersonianum, Bruyns 3362, BOL, Cp, h  
 bidens E.Mey. subsp. bidens, Bruyns 3329, BOL, W, h

## Aspidoglossum sp., BOL, NK, +,

## Gomphocarpus

- filiformis (E.Mey.) Dietr., Randall 27339, SCH, Cp, h  
 fruticosus (L.) W.T. Aiton, Randall 27321, SCH, W, h  
 Sarcostemma viminale (L.) R.Br., Palmer & Van Ginkel 2747, BOL, GRA, W, cl

## Brachystelma circinatum E.Mey., Bruyns 3706, BOL, W, g

## Hoodia

- gordonii (Masson) Sweet ex Decne., Shearing s.n., SCH, SK, su  
 flava (N.E.Br.) Plowes, Shearing s.n., SCH, NK/SK, su  
 Piaranthus comptus N.E.Br., Bruyns 3665, BOL, NK (GK/UK), +, su

## Duvalia

- angustiloba N.E.Br., Bruyns 3417, BOL, KRNP, +, su  
 caespitosa (Masson) Haw. var. caespitosa, Shearing s.n., SCH, NK/SK, su

## corderoyi (Hook.f.) N.E.Br., Bruyns 3376, BOL, NK/S (GK/UK), su

## Stapelia

- engleriana Schltr., Bruyns 3411, BOL, GK, +, su  
 grandiflora Masson, Shearing s.n., SCH, NK/S, su  
 olivacea N.E.Br., Bruyns 3652, BOL, NK (GK/UK), +, su  
 sp., Rishworth 62, ?, su

## Tridentea

- gemmiflora (Mass.) Haw., Bruyns 4030, BOL, NK (GK/UK), +, su  
 jucunda (N.E.Br.) L.C. Leach, Palmer & Van Ginkel s.n., GRA, GK, +, su

- parvipuncta (N.E.Br.) L.C. Leach subsp. parvipuncta, Bruyns 3990, BOL, NK/SK, su

- Huernia barbata (Masson) Haw., Bruyns 4221, BOL, NK/S, su  
 Fockea comaru (E.Mey.) N.E.Br., Bruyns s.n., BOL, NK/SK/F, g

## CONVOLVULACEAE

- Cuscuta campestris Yunck., Shearing s.n., SCH, S/G, h, p, \*  
 Convolvulus

- arvensis L., Shearing s.n., SCH, W, h, cl, \*  
 dregeanus Choisy, Shearing 904, SCH, W, h  
 sagittatus Thunb., Shearing s.n., SCH, W, h  
 thunbergii Roem. & Schult., Palmer & Van Ginkel s.n., W, h

## BORAGINACEAE

- Ehretia rigida (Thunb.) Druce, Bengis 329, SCH, W, sh, [t]  
 Heliotropium ciliatum Kaplan, Shearing s.n., SCH, W, h  
 Trichodesma africanum (L.) Lehm., Bengis 463, NK/SK, h  
 Cynoglossum lanceolatum Forssk., Bengis 387, W, h  
 Lappula capensis (DC.) Görke, Shearing s.n., SCH, NK/SK/STh, h  
 Anchusa capensis Thunb., Bengis 365, SCH, NK/SK/F, h  
 Myosotis  
 arvensis (L.) Hill, Bengis 398, NK/F, h  
 graminifolia DC., Braack 187, UK, +, h  
 Lithospermum scabrum Thunb., Bengis 382, NK/SK/STh, h  
 Lobostemon argenteus (P.J. Bergius) H. Buek, Bengis 419, SCH, NK/SK, sh

## VERBENACEAE

- Lantana rugosa* Thunb., *Shearing s.n.*, SCH, W, sh  
*Chascanum*  
*cuneifolium* (L.f.) E.Mey., *Rubin* 92, KRNP, W, dw  
*garipense* E.Mey., *Palmer & Van Ginkel* 2703, 2817, GRA, W, h  
*pinnatifidum* (L.f.) E.Mey. var. *pinnatifidum*, *Shearing* 1378, SCH, ?, h  
*pumilum* E.Mey., *Shearing s.n.*, SCH, NK/SK/S, h

## LAMIACEAE

- Teucrium trifidum* Retz., *Shearing s.n.*, SCH, W, h  
*Leonotis*  
*leonurus* (L.) R.Br., *Palmer & Van Ginkel* 2770, GRA, W, sh  
*ocymifolia* (Burm.f.) Iwarsson var. *ocymifolia*, *Shearing s.n.*, SCH, W, sh  
*Lamium amplexicaule* L., *Shearing s.n.*, S, h, \*  
*Ballota africana* (L.) Benth., *Bengis* 469, SCH, W, dw  
*Stachys*  
*cuneata* Banks ex Benth., *Shearing s.n.*, SCH, NK/SK, sh  
*grandifolia* E.Mey. ex Benth., *Palmer & Van Ginkel* 2099, GRA, NK/G, h  
*rugosa* Aiton, *Palmer & Van Ginkel* 2133, 2825, 2741, GRA, KRNP, NK/SK/G, sh  
*Salvia*  
*albicaulis* Benth., *Rubin* 26713, KRNP, W, h  
*disermas* L., *Shearing* 865, SCH, W, sh, h  
*stenophylla* Burch. ex Benth., *Braack* 223, *Palmer & Van Ginkel* 2477, GRA, W, h  
*verbenaca* L., *Randall* 27322, SCH, W, h  
*Becium burchellianum* (Benth.) N.E.Br., *Rubin s.n.*, KRNP, NK/STh (UK), sh  
*Mentha aquatica* L., *Sugden s.n.*, W, h

## SOLANACEAE

- Nicandra physalodes* (L.) Gaertn., *Palmer & Van Ginkel* 2167, GRA, W, sh, dw, h, \*  
*Lycium*  
*cinereum* Thunb. *sensu lato*, *Palmer & Van Ginkel* 1818, 1820, 2441, GRA, W, sh, dw  
*hirsutum* Dunal, *Rubin* 26938, KRNP, W, sh, dw  
*oxycarpum* Dunal, *Palmer & Van Ginkel* 2799, 2845, *Rubin* 26291, 26937, GRA, KRNP, GK, +, t, sh, dw  
*prunus-spinosa* Dunal, *Palmer & Van Ginkel* 2696, GRA, W, sh, dw  
*schizocalyx* C.H.Wright, *Bengis* 334, SCH, W, sh, dw  
*cf. villosum* Schinz, *Braack* 27, NK, +, sh, dw  
*Withania somnifera* (L.) Dun., *Shearing* 851, SCH, W, sh, dw, h  
*Solanum*  
*capense* L., *Palmer & Van Ginkel* 1851, 2768, *Randall* 27370, SCH, W, sh, dw  
*coccineum* Jacq., *Rubin s.n.*, KRNP, W, sh, dw  
*elaeagnifolium* Cav., *Shearing s.n.*, SCH, W, sh, dw, \*  
*nigrum* L., *Braack* 183, SCH, W, h, \*  
*retroflexum* Dunal, *Shearing s.n.*, SCH, W, h  
*rigescens* Jacq., *Rubin* 26715, KRNP, W, sh  
*supinum* Dunal var. *supinum*, *Shearing s.n.*, SCH, NK/SK/F, sh, dw, h  
*tomentosum* L., *Palmer & Van Ginkel* 1867, 2728, 2101, GRA, W, sh, [dw, h]  
*Datura stramonium* L., *Shearing s.n.*, SCH, W, h, [sh], \*  
*Nicotiana glauca* Graham, *Randall* 27304, SCH, W, t, sh, \*

## SCROPHULARIACEAE (Part A)

- Aptosimum*  
*indivisum* Burch. ex Benth., *Bengis* 458, *Palmer & Van Ginkel* 2116, GRA, W, dw  
*procumbens* (Lhm.) Steud., *Rubin* 61, *Palmer & Van Ginkel* 2154, SCH, GRA, W, h  
*spinescens* (Thunb.) Weber, *Palmer & Van Ginkel* 2110, *Rubin* 26704, GRA, KRNP, NK/SK, dw  
*sp.*, *Shearing s.n.*, SCH, ?, h  
*Peliostomum leucorrhizum* E.Mey. ex Benth., *Shearing s.n.*, SCH, NK/SK, dw  
*Diascia*  
*alonsooides* Benth., *Bengis* 370, SCH, NK, +, h  
*capsularis* Benth., *Shearing s.n.*, SCH, W, h, [dw]  
*Nemesia*  
*floribunda* Lhm., *Bengis* 391, KRNP, W, h  
*fruticans* (Thunb.) Benth., *Rubin* 3240, 3251, 3252, KRNP, W, h  
*versicolor* E.Mey. ex Benth., *Braack* 30, SCH, SK/F, h  
*Manulea fragrans* Schltr., *Braack* 36, SCH, NK, +, h  
*Sutera*  
*affinis* (Bernh.) Kuntze, *Rubin s.n.*, KRNP, F, h

- argentea* (L.f.) Hiern, *Rubin* 79, W, dw  
*campanulata* (Benth.) Kuntze, *Palmer & Van Ginkel* 2697, GRA, W, sh  
*cephalotes* Kuntze, *Palmer & Van Ginkel* 2852, GRA, F, h, sh  
*halimifolia* (Benth.) Kuntze, *Palmer & Van Ginkel* 2161, 2693, *Rubin* 26942, GRA, W, h  
*macrosiphon* (Schltr.) Hiern, *Bengis* 342, NK/G (UK), dw  
*marifolia* (Benth.) Kuntze, *Rubin s.n.*, KRNP, F, h  
*pinnatifida* (Benth.) Kuntze, *Palmer & Van Ginkel* 1840, 2731, 2901, GRA, W, h  
*rotundifolia* (Benth.) Kuntze, *Gibbs-Russell* 4276, GRA, NK, +, dw  
*uncinata* (Desr.) Hilliard, *Shearing s.n.*, SCH, NK/SK/F, sh  
*Jamesbrittenia*  
*albiflora* (I.Verd.) Hilliard, *Shearing s.n.*, SCH, W, h  
*atropurpurea* (Benth.) Hilliard subsp. *atropurpurea*, *Palmer & Van Ginkel* 2815, GRA, W, sh, dw  
*aurantiaca* (Burch.) Hilliard, *Shearing s.n.*, SCH, W, h  
*tysonii* (Hiern) Hilliard, *Shearing s.n.*, SCH, NK/S, h, dw  
*Zaluzianskya*  
*crocea* Schltr., *Bengis* 406, NK/G, h  
*ovata* (Benth.) Walp., *Bengis* 405, W, h  
*violacea* Schltr., *Braack* 31, NK/F, h  
*Limosella grandiflora* Benth., *Shearing s.n.*, SCH, NK/G/S, h

## SELAGINACEAE

- Hebenstretia*  
*parviflora* E.Mey., *Bengis* 374, SCH, NK/SK/F, h  
*ramosissima* Jaroscz, *Braack* 20, SCH, F, h  
*robusta* E.Mey., *Shearing s.n.*, SCH, NK/SK, h, sh  
*Selago*  
*albida* Choisy, *Palmer & Van Ginkel* 2886, *Rubin* 3221, 26911, SCH, GRA, KRNP, NK/SK/STh, sh  
*corymbosa*, *Sugden s.n.*, Cp.  
*forbesii* Rolfe, *Sugden s.n.*, Cp.  
*punctata* Rolfe, *Palmer & Van Ginkel* 2153, 2168, GRA, G, sh  
*speciosa* Rolfe, *Shearing s.n.*, SCH, G, sh  
*Walafrida*  
*geniculata* (L.f.) Rolfe, *Palmer & Van Ginkel* 2114, 2684, 2829, GRA, W, dw  
*gracilis* Rolfe, *Shearing s.n.*, SCH, F, sh, dw  
*micrantha* (Choisy) Rolfe, *Rubin* 3236, KRNP, W, sh  
*nachtigalii* (Rolfe) Rolfe, *Braack* 68, W, h  
*saxatilis* (E.Mey.) Rolfe, *Palmer & Van Ginkel* 2130, 2503, 2742, *Rubin* 3201, SCH, GRA, KRNP, W, h  
*Cromidon* sp. nov. *Compton*, *Bengis* 341, ?

## SCROPHULARIACEAE (Part B)

- Veronica anagallis-aquatica* L., *Shearing s.n.*, SCH, W, h  
*Harveya*  
*purpurea* (L.f.) Harv., *Shearing s.n.*, SCH, F/S/G, p  
*bolusii* Kuntze, *Shearing s.n.*, SCH, F, p  
*randii* Hiern, *Rubin* 26767, KRNP, W, p

## BIGNONIACEAE

- Rhigozum*  
*obovatum* Burch., *Palmer & Van Ginkel* 1837, GRA, W, sh  
*trichotomum* Burch., *Braack s.n.*, KRNP10, W, sh

## PEDALIACEAE

- Sesamum*  
*capense* Burm.f., *Shearing s.n.*, SCH, W, h  
*triphylllum* Welw. ex Asch. var. *triphylllum*, *Rubin* 26737, KRNP, W, h

## LENTIBULARIACEAE

- Utricularia bisquamata* Schrank, *Shearing* 107, SCH, W, hy, h

## ACANTHACEAE

- Barleria*  
*pungens* L.f., *Shearing s.n.*, SCH, F/STh, dw, h  
*stimulans* E.Mey. ex Nees, *Palmer & Van Ginkel* 1835, GRA, NK/S, dw, h  
*Blepharis*  
*capensis* (L.f.) Pers.  
 var. *capensis*, *Rubin s.n.*, SCH, NK/SK/F, sh, dw  
 var. *latibracteata* Oberm., *Rubin* 94, Cp, sh, dw  
*mitrata* C.B.Clark, *Rubin* 104, SCH, NK, +, sh, dw, h  
*villosa* (Nees) C.B.Clark, *Bengis* 509, NK, +, dw, h  
*Acanthopsis disperma* Nees, *Shearing s.n.*, SCH, NK/SK, h  
*Justicia orchoides* L.f. subsp. *orchoides*, *Shearing s.n.*, SCH, NK/F/S/G, sh, dw  
*Monechma*  
*divaricatum* (Nees) C.B.Clark, *Palmer & Van Ginkel* 1821, GRA, W, sh, dw, h

## Monechma (cont.)

- incanum (Nees) C.B. Clarke, Palmer & Van Ginkel 2103, 2783, Rubin 26919, GRA, KRNP, NK/S, sh, dw  
 spartioides (T. Anderson) C.B. Clarke, Palmer & Van Ginkel 1834, 2488, 2738, SCH, GRA, Cp, sh, dw

## PLANTAGINACEAE

- Plantago lanceolata L., Shearing s.n., SCH, W, h, \*

## RUBIACEAE

## Anthospermum

- aethiopicum L., Palmer & Van Ginkel 2912, GRA, KRNP, NK/F/S, sh  
 dregei Sond. subsp. dregei, Rubin s.n., SCH, KRNP, SK/F, dw  
 rigidum Eckl. & Zeyh. subsp. pumilum (Sond.) Puff, Bengis 475, W, dw  
 spathulatum Spreng. subsp. spathulatum, Rubin 26751, KRNP, W, sh, dw  
 Nenax microphylla (Sond.) Salter, Rubin 26726, KRNP, NK/G/StH, dw  
 Galium  
 capense Thunb. subsp. capense, Rubin 8237, 26762, SCH, KRNP, NK/F/S (GK), h  
 tomentosum Thunb., Rubin 26940, KRNP, W, h

## DIPSACACEAE

- Scabiosa columbaria L., Rubin 3258, 26729, 27008, KRNP, W, h

## CUCURBITACEAE

## Kedrostis

- africana (L.) Cogn., Bruyns 3427, BOL, W, cl  
 crassirostrata Bremek., NK/S, h, cl

- Citrullus lanatus (Thunb.) Matsum. & Nakai, Shearing s.n., SCH, W, h, cl

## Cucumis

- africanus L.f., Rubin 26735, KRNP, W, h, [cl]  
 myriocarpus Naudin subsp. myriocarpus, Shearing s.n., SCH, W, h, [cl]  
 zeyheri Sond., Shearing s.n., SCH, W, h, [cl]

## CAMPANULACEAE

## Wahlenbergia

- cernua (Thunb.) A.D.C., Bengis 421, F/StH/G, h  
 nodosa (H. Buek) Lammers, Palmer & Van Ginkel 2821, 2900, Rubin 26753, 26944, GRA, KRNP, W, sh

## LOBELIACEAE

## Lobelia

- erinus L., Sugden s.n., W, h  
 thermalis Thunb., Shearing s.n., SCH, W, h

## ASTERACEAE

## Pteronia

- adenocarpa Harv., Palmer & Van Ginkel 1863, GRA, NK, +, sh  
 cinerea L.f., NK/F, sh, dw  
 glauca Thunb., Palmer & Van Ginkel 2514, 2849, Rubin 26787, GRA, KRNP, NK/SK, sh, dw  
 glomerata L.f., Braack 221, Rubin 3185, SCH, KRNP, NK/F, sh, [dw]  
 inflexa Thunb. ex L.f., Rubin s.n., SK, sh  
 membranacea L.f., Bengis 433, Rubin 3184, SCH, KRNP, NK/F/S, sh  
 mucronata DC., Rubin s.n., KRNP, NK, +, sh, dw  
 pallens L.f., Shearing s.n., SCH, NK/F, sh, dw  
 paniculata Thunb., Shearing s.n., SCH, NK/SK/F/S, sh, dw  
 punctata E. Phillips, Braack s.n., KRNP96, KRNP, NK, +, sh  
 scariosa L.f., Rubin 102, GK, +, sh  
 sordida N.E.Br., Palmer & Van Ginkel 2151, 2868, GRA, KRNP, NK/SK, dw, [sh]  
 spinulosa E. Phillips, BK, +, dw, [sh]  
 staeheleinoides DC., Palmer & Van Ginkel 2515, 2806, GRA, NK/F/S, sh, dw  
 tricephala DC., Rubin 51, GK, +, sh  
 viscosa Thunb., Bengis 423, Rubin 3187, 26718, SCH, NK, +, sh, dw  
 Amellus tridactylus DC. subsp. tridactylus, Palmer & Van Ginkel s.n., GRA, NK/SK/F, h  
 Aster squamatus (Spreng.) Hieron., Palmer & Van Ginkel 2095, SCH, W, h, \*

- Erigeron sp., Randall 27412, SCH, KRNP, ?, h

## Felicija

- fascicularis DC., Braack 24, Rubin 26783, GRA, KRNP, W, sh  
 filifolia (Vent.) Burt Davy subsp. filifolia, Palmer & Van Ginkel 1858, 2111, Rubin 26715, 26934, SCH, GRA, KRNP, W, sh  
 hirsuta DC., Palmer & Van Ginkel 1854, 2850, Rubin 26717, KRNP, W, sh  
 lasiocarpa DC., Shearing s.n., GRA, NK, +, sh  
 muricata (Thunb.) Nees subsp. muricata, Palmer & Van Ginkel 2129, KRNP, W, sh  
 namaquana (Harv.) Merxm., Braack 5, KRNP, NK/SK, h

- ovata (Thunb.) Compton, Braack s.n., KRNP122, Rubin 26782, GRA, W, sh

## zeyheri (Less.) Nees

- subsp. linifolia (Harv.) Grau, Palmer & Van Ginkel 1850, 2673, 2789, GRA, W, sh  
 subsp. zeyheri, Palmer & Van Ginkel 2714, 2843, 2851, NK, +, sh

## Conyza

- scabrata DC., Shearing s.n., SCH, W, sh  
 sp., Braack 185, GRA, KRNP, W, h  
 Chrysocoma oblongifolia DC., Bengis 345, Palmer & Van Ginkel 2112, Rubin 26758, SCH, KRNP, W, sh, dw

- Tarhonanthus camphoratus L., Bengis 447, Rubin 3176, KRNP, W, sh, [dw]

- Trichogyne decumbens (Thunb.) Less., Shearing s.n., SCH, NK/SK/G, h

- Ifloga glomerata (Harv.) Schltr., Shearing s.n., SCH, NK/SK/F/G/S, sh, [h]

- Vellereophyton niveum Hilliard, Shearing 909, SCH, NK/F (GK), sh, dw

- Pseudognaphalium undulatum (L.) Hilliard & B.L. Burt, Shearing s.n., SCH, KRNP, W, sh, dw

## Helichrysum

- dregeanum Sond. & Harv., Rubin 3182, 3183, GRA, W, sh, dw  
 hamulosum E. Mey. ex DC., Palmer & Van Ginkel 2754, SCH, W, sh, [dw]

- lineare DC., Rubin s.n., SCH, GRA, KRNP, W, h

- lucilioides Less., Palmer & Van Ginkel 2818, SCH, NK/SK (GK/UK), sh, [h]

- pumilio (O. Hoffm.) Hilliard & B.L. Burt

- subsp. fleckii (S. Moore) Hilliard, Bengis 346, SCH, NK/SK/G, sh, dw

- subsp. pumilio, Shearing s.n., SCH, NK/SK, sh, dw

- revolutum (Thunb.) Less., Rubin s.n., SCH, KRNP, SK/F, sh, dw

- rosum (P.J. Bergius) Less. var. rosum, Shearing s.n., SCH, NK/F/S, sh, [dw]

- rugulosum Less., Shearing 843, SCH, W, h

- scitulum Hilliard & B.L. Burt, Shearing s.n., SCH, NK, +, sh, [h]

- trilineatum DC., Bengis 377, GRA, G, sh, dw

- zeyheri Less., Palmer & Van Ginkel 2156, 2711, 2887, SCH, W, sh, dw

- Elytropappus rhinocerotis (L.f.) Less., Palmer & Van Ginkel 2137, 2745, Rubin 26936, KRNP, W, sh, dw

- Pterothrix spinescens DC., Randall 27395, W, sh

- Relhania sp., Bengis 412, GRA, KRNP, ?, h

## Rosenia

- humilis (Less.) K. Bremer, Palmer & Van Ginkel 1857, 2508, Rubin 3197, 26742, GRA, W, sh

- oppositifolia (DC.) K. Bremer, Palmer & Van Ginkel 2486, SCH, UK, +, sh

- spinescens DC., GRA, GK, +, sh

## Leysera

- gnaphalodes (L.) L., Rubin 49, GRA, NK/SK/F, dw

- tenella DC., Palmer & Van Ginkel 1832, SCH, GRA, KRNP, NK/SK/F, h

- Pegoletia retrofracta (Thunb.) Kies, Palmer & Van Ginkel 2489, 2512, Rubin 26903, SCH, W, dw

- Geigeria filifolia Mattf., Bengis 480, SCH, W, h

- Xanthium spinosum L., Shearing s.n., GRA, W, h, \*

- Schkuhria pinnata (Lam.) Cabrera, Palmer & Van Ginkel 1731, W, h, \*

- Tagetes minuta L., Shearing s.n., KRNP, W, h, \*

## Eriocephalus

- cf. aspalathoides i, GRA, KRNP, W, sh

- decussatus Burch. (ex Shearing), Shearing s.n., SCH, NK/SK, sh

- ericoides (L.f.) Druce, Palmer & Van Ginkel 1824, 1825, 1848, SCH, GRA, KRNP, W, sh

- pubescens DC., Shearing s.n., SCH, W, sh

- punctulatus DC., Palmer & Van Ginkel 2106, Rubin 3241, 26784, KRNP, F, sh

- spinescens Burch., Rubin 26712, KRNP, NK/SK/S, sh, [dw]

- sp., Shearing s.n., SCH, ?, sh

- tenuifolius DC., Rubin s.n., GK, +, sh

## Athanasia

- cf. linifolia Burm., GRA, Cp, sh

- microcephala (DC.) D. Dietr., Shearing s.n., SCH, NK/SK/F, sh

- minuta (L.f.) Källersjö subsp. minuta, Shearing s.n., SCH, NK/SK, dw, [sh]

## Phymaspermum

- aciculare (E. Mey. ex Harv.) Benth. & Hook. ex Jacks., Shearing s.n., SCH, NK, +, sh

- cf. leptophyllum (DC.) Benth. & Hook. ex Jacks., Palmer & Van Ginkel 2729, GK, +, sh

- parvifolium (DC.) Benth. & Hook. ex Jacks., Shearing s.n., SCH, NK/StH, dw, [sh]

- schröteri Compton, Shearing s.n., SCH, SK, +, sh

- sp., Randall 27331, SCH, ?, sh

- Cotula  
 coronopifolia L., *Shearing s.n.*, SCH, W, h, [hy]  
 heterocarpa DC., *Sugden s.n.*, Cp, h  
 sororia DC., NK/Sth (UK), h  
 microglossa (DC.) O.Hoffm. & Kuntze ex Kuntze, *Bengis 413*, W, h  
 Artemisia afra Jacq. ex Willd., *Randall 27324*, SCH, GRA, KRNP, W, h, [sh]
- Pentzia  
 globosa Less., *Palmer & Van Ginkel 2822, 2823, 2858*, GRA, KRNP, W, sh  
 incana (Thunb.) Kuntze, *Palmer & Van Ginkel 1838, 2826*, *Rubin 26708*, SCH, GRA, W, sh  
 punctata Harv., *Palmer & Van Ginkel 1842, 2150, 2883*, SCH, NK/F, sh  
 quinquefida (Thunb.) Less., *Bengis 511, Rubin 26998*, KRNP, NK/G (UK/BK), sh  
 sphaerocephala DC., *Braack s.n., KRNP129, Rubin 27031*, SCH, W, sh  
 spinescens Less., *Bengis 512*, SCH, UK, +, sh
- Oncosiphon piluliferum (L.f.) Källersjö, *Shearing s.n.*, SCH, NK/SK/F/S, h
- Cineraria  
 aspera Thunb., *Bengis 399*, KRNP, W, h  
 lobata L'Hér., *Shearing s.n.*, SCH, S/F, h, [dw]  
 mollis E.Mey. ex DC., *Rubin 3230, 3247*, KRNP, W, h
- Senecio  
 abbreviatus S.Moore, BOL, NK, +, cl  
 achilleifolius DC., *Shearing s.n.*, SCH, G, h, [sh]  
 acutifolius DC., *Rubin 26918*, KRNP, NK/G (GK/UK), sh, dw  
 articulatus (L.) Sch.Bip., BOL, NK/Sth, h, su  
 asperulus DC., *Palmer & Van Ginkel 2909*, SCH, GRA, W, h  
 burchellii DC., *Bengis 437*, W, sh, dw, h  
 carroensis DC., *Rubin s.n.*, GK, +, h  
 cotyledonis DC., *Palmer & Van Ginkel 2511*, GRA, NK/SK, sh, dw, su  
 crysimoides DC., *Shearing s.n.*, SCH, SK/G, h  
 hallianus G.D.Rowley, BOL, Cp, h, su  
 harveianus MacOwan, *Shearing s.n.*, SCH, G, h, [dw]  
 inaequidens DC., *Palmer & Van Ginkel 2128, 2753*, GRA, W, h, [sh]  
 leptophyllus DC., *Palmer & Van Ginkel 2472*, GRA, NK/F/S, sh, dw, h  
 linifolius L., *Bruyns 3975*, BOL, F/Sth, sh  
 madagascariensis Poir., *Shearing s.n.*, SCH, W, h  
 pearsonii Hutch., BOL, Cp, h  
 radicans (L.f.) Sch.Bip., *Palmer & Van Ginkel 2112*, GRA, W, h, su  
 striatifolius DC., *Braack s.n., KRNP136*, W, h  
 vimineus DC., *Shearing s.n.*, SCH, G/S, h
- Kleinia longiflora DC., *Palmer & Van Ginkel 1833*, GRA, STh, sh, su.
- Euryops  
 annae E.Phillips, *Palmer & Van Ginkel 2741, 2897*, GRA, KRNP, W, sh  
 anthemoides B.Nord. subsp. anthemoides, *Palmer & Van Ginkel 2844*, GRA, NK/Sth (UK), dw  
 cuneatus B.Nord., *Braack 19*, GK, +, sh  
 empetrifolius DC., *Braack 18*, W, sh  
 imbricatus (Thunb.) DC., *Bengis 470, Rubin 26781, 26939*, SCH, KRNP, GK, +, sh  
 lateriflorus (L.f.) DC., *Palmer & Van Ginkel 2904*, GRA, W, sh  
 nodosus B.Nord., *Rubin 50*, KRNP, UK/G, sh, dw  
 oligoglossus DC.  
 subsp. oligoglossus, *Palmer & Van Ginkel 2136, 2749*, SCH, GRA, KRNP, NK, +, sh  
 subsp. racemosus (DC.) B.Nord., *Rubin 70*, NK, +, sh  
 subcarnosus DC.  
 subsp. subcarnosus DC., *Braack 35*, SCH, NK/SK, sh  
 subsp. vulgaris B.Nord., *Shearing s.n.*, SCH, NK/SK/G, sh  
 sulcatus (Thunb.) Harv., *Rubin 69*, KRNP, NK, +, sh  
 trifidus (L.f.) DC., *Bengis 389*, NK, +, sh
- Othonna  
 auriculifolia Licht. ex Less., *Palmer & Van Ginkel 2162, 2910*, GRA, NK, +, h
- carcosa Less. var. carcosa, *Bengis 505*, W, sh, su.  
 furcata (Lindl.) Druce, *Gibbs-Russell 335*, GRA, NK, +, sh, su.  
 pavonia E.Mey., *Shearing s.n.*, SCH, NK (GK/UK), +, sh  
 protecta Dinter, *Bruyns 3958*, BOL, NK/SK (GK), dw, h, su  
 sedifolia DC., *Palmer & Van Ginkel 2500*, BOL, GRA, NK/SK (BK), dw, su
- Oligocarpus calendulaceus (L.f.) Less., *Braack 3*, SCH, KRNP, W, h
- Dimorphotheca  
 cuneata (Thunb.) Less., *Bengis 358*, SCH, NK/SK/Sth, sh  
 sp., *Braack 172, ?*,
- Garuleum bipinnatum (Thunb.) Less., *Palmer & Van Ginkel 1826, 2800*, GRA, NK/SK, sh, [h]
- Osteospermum  
 leptolobum (Harv.) Norl., *Rubin 26714*, KRNP, NK (GK/UK), +, sh  
 microphyllum DC., *Palmer & Van Ginkel 2450, 3168*, GRA, NK, +, sh  
 rigidum Aiton var. rigidum, *Rubin s.n.*, KRNP, NK/SK, sh, [dw]  
 spinescens Thunb., *Shearing s.n.*, SCH, NK/G/S, sh
- Tripteris  
 aghillana DC. var. aghillana, *Palmer & Van Ginkel 2517, Rubin 26747*, GRA, KRNP, NK/SK/F/G, h  
 sinuata DC. var. sinuata, *Palmer & Van Ginkel 2827, 2863, Rubin 26703*, GRA, KRNP, NK/SK, sh
- Ursinia nana DC. subsp. nana, *Bengis 476*, SCH, W, h
- Arctotis  
 adpressa DC., *Shearing s.n.*, SCH, NK/SK, h  
 arctotoides (L.f.) O.Hoffm., *Palmer & Van Ginkel 2874*, GRA, W, h  
 erosa (Harv.) P.Beauv., *Bengis 380*, SCH, SK, h  
 leiocarpa Harv., *Braack 4*, SCH, NK (GK/UK), +, h  
 microcephala (DC.) P.Beauv., *Shearing s.n.*, SCH, W, h  
 sulcocarpa Lewin, *Shearing s.n.*, SCH, NK/SK/F, h
- Arctotheca calendula (L.) Levyns, *Shearing s.n.*, SCH, SK/F/S/G, h
- Haplocarpha sp., *Braack s.n., KRNP201, ?, h*
- Gazania  
 heterochaeta DC., *Rubin s.n.*, NK/SK, h  
 krebsiana Less.  
 subsp. arctotoides (Less.) Roessler, *Palmer & Van Ginkel 2685*, GRA, W, h  
 subsp. krebsiana, *Rubin 42*, KRNP, W, h  
 lichtensteinii Less., *Randall 27388*, SCH, NK/SK/F, h  
 linearis (Thunb.) Druce var. linearis, *Palmer & Van Ginkel 2473*, GRA, KRNP, w, h
- Hirpicium alienatum (Thunb.) Druce, *Rubin 26905*, SCH, KRNP, NK/SK, dw
- Berkheya  
 carlinifolia (DC.) Roessler subsp. carlinifolia, *Rubin 3246*, KRNP, NK/SK, sh  
 decurrens (Thunb.) Willd., *Palmer & Van Ginkel 2094*, GRA, F/Sth, h  
 glabrata (Thunb.) Fourc., *Bengis 449*, KRNP, W, h  
 heterophylla (Thunb.) O.Hoffm.  
 var. heterophylla, K/Sth, h  
 var. radiata (DC.) Roessler, *Shearing s.n.*, SCH, F/S, h  
 pinnatifida (Thunb.) Thell. subsp. pinnatifida, *Rubin 6*, SCH, G/Sth, h  
 spinosa (L.f.) Druce, *Bengis 403*, GK, +, sh  
 spinosissima (Thunb.) Willd. subsp. spinosissima, SCH, NK, +, sh
- Cuspidia cernua (L.f.) B.L.Burt subsp. cernua, *Bengis 481, Palmer & Van Ginkel 2828, Rubin 26728*, GRA, KRNP, NK/Sth (GK), h
- Cirsium vulgare (Savi) Ten., *Randall 27319*, W, h, \*
- Dicoma  
 capensis Less., *Randall 27410*, KRNP, SCH, NK/SK, h  
 spinosa (L.) Druce, *Rubin 26709, 26792*, KRNP, NK, +, dw
- Cichorium intybus L., *Shearing s.n.*, SCH, NK/G, h, \*
- Tragopogon porrifolius L., SCH, W, h, \*
- Sonchus wilmsii R.E.Fr., *Rubin s.n.*, G/S, h
- Lactuca capensis Thunb., *Bengis 379*, W, h

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