



The flora of the Bontebok National Park in regional perspective

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Abstract

Six-hundred-and-fifty plant species from 280 genera and 85 families have been recorded as indigenous to the Bontebok National Park (BNP), which lies 5 km south of Swellendam, in the Western Cape. Twenty-nine of these plant species are globally threatened with extinction and another 23 are species of conservation concern. Three species (*Aspalathus burchelliana*, *Diosma fallax*, *Erica filamentosa*) are endemic to the park. The Asteraceae, Iridaceae and Fabaceae ranked high as speciose families, in line with the Cape Floristic Region (CFR) as a whole, while the Asphodelaceae, Crassulaceae, Poaceae and Cyperaceae were overrepresented, and the Rutaceae, Proteaceae and Ericaceae underrepresented at BNP. The largest genera were *Aspalathus* (19 species), *Crassula* (17), *Pelargonium* (16), *Erica* (15), *Oxalis* (12), *Moraea* (11), *Helichrysum* (10) and *Hermannia* (10). Geophytes were the dominant growth form (23% of species recorded), followed by dwarf shrubs (20%), herbs (16%), graminoids (15%), shrubs (13%), succulents (8%), trees (3%) and climbers (2%). Forty alien plant species were recorded (likely an underestimate of true numbers) with the Poaceae most speciose and arguably the biggest invasive threat at the park. With 20 plant species/km², the flora of BNP is richer than expected based on its location within the south-eastern CFR. Similarity with floras of other lowland and montane protected areas in the region is low (<33% and <20% respectively), demonstrating that a large component of BNP's flora is not conserved elsewhere. Within a landscape context, BNP forms part of a cluster of connected core sites for Renosterveld conservation. This work confirms the high importance of BNP for flora conservation nationally and even globally.

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1. Introduction

The Bontebok National Park (BNP) is a small (3435 ha) protected area, originally established to conserve one of the rarest antelope in Africa, the bontebok (*Damaliscus pygargus pygargus*; Red listed as *Vulnerable*) (Friedmann and Daly, 2004; Skinner and Chimimba, 2005). However, BNP is also located within the internationally renowned hotspot of biodiversity, the Cape Floristic Region (CFR) (Goldblatt and Manning, 2002; Myers, 1990) and conservation of the vegetation in the park has over time become an increasing priority owing to near-complete habitat destruction outside the park (Von Hase et al., 2003).

There is uncertainty around whether the vegetation of BNP represents 'true' Renosterveld which generally occurs on shales

or granites, or is rather a type of lowland Alluvium Fynbos on old boulder terraces (Rebelo, 1992; Theron, 1967). Accordingly, the national vegetation map of South Africa classified the vegetation of BNP as Swellendam Silcrete Fynbos, considering it a poorly known vegetation type exhibiting floristic features of both Fynbos and Renosterveld (Rebelo et al., 2006). Structurally it is described as a medium-tall evergreen shrubland or grassland, with predominantly asteraceous Fynbos, but graminoid Fynbos occurring on summits and northern slopes where disturbed. The national status of Swellendam Silcrete Fynbos is Endangered and it has a conservation target of 30% meaning that >30% of the original extent of this vegetation type needs be protected in order to capture 75% of the species occurring in it. Only 4% is statutorily conserved, largely in BNP, whereas 43% is already transformed (Rouget et al., 2004), largely through cultivation and afforestation with commercial pine plantations (Rebelo et al., 2006). Small areas of Cape Lowland Alluvial Vegetation (Mucina et al., 2006) furthermore occur within the

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park associated with the Breede River and its tributaries. This vegetation type is Critically Endangered as 69% is transformed and only 1% statutorily conserved (Rouget et al., 2004).

At the regional scale, the conservation plan for the Cape Lowlands Renosterveld (Von Hase et al., 2003) mapped the southern half of the park as Renosterveld. BNP is also included in the regional map of the Riversdale Plain, where Vlok and De Villiers (2007) recognised five different vegetation types within the park, i.e. Proteoid Fynbos, Asteraceous Fynbos, Inland Pans and two types of River/Floodplain vegetation along the Breede River.

At park scale, the only published account of the flora (Grobler and Marais, 1967) comprises a basic description and associated map of the vegetation communities of less than half the area of the current park. These authors identified 12 vegetation communities belonging to three main vegetation types, i.e. riparian/tree type, sweet veld/renosterbos type (Acocks, 1988; Veld Type 46), and mixed grass veld/*Leucadendron* type (Acocks Veld Type 70). Luyt (2005) subsequently mapped the vegetation of BNP, although a detailed vegetation account or plant species inventory was not the focus of his study.

Despite the rudimentary vegetation descriptions, a comprehensive plant species inventory was kept (SANParks unpubl. data) throughout BNP's history along with a park-based herbarium collection to which various botanists contributed. Kruger et al. (1989, cited in Richardson et al., 1992) reported 20 years ago that BNP had 446 native plant species. This figure is likely based on the former National Botanical Institute's unpublished data (cf. Taylor, 1972).

Various factors may affect vegetation structure and composition, including management practises. At BNP, these are fire and grazing. Fynbos and Renosterveld are both fire-prone and fire-adapted vegetation types. The frequency, season, intensity and size of fires are primary determinants of plant species composition, structure and successional patterns (Kruger and Bigalke, 1984; Van Wilgen et al., 1992). Frequent burning and/or overgrazing are thought to convert Swellendam Silcrete Fynbos to Grassy Fynbos on northern slopes and to a species-poor Renosterveld elsewhere (Rebello et al., 2006). BNP has a history of frequent burning in some areas of the park (Kraaij, 2010) in combination with relatively constant, and at times, heavy utilisation by large grazing ungulates (Kraaij and Novellie, 2010), both of which may have impacted on the structure and composition of the vegetation.

The aim of this work is to provide an updated checklist of the plant species of BNP to act as a basic reference for future floristic and ecological work in the region. The composition of the flora is furthermore assessed in terms of dominant families, genera, growth forms, CFR-endemism and species richness, and put into perspective with other protected areas in the region, and the CFR in general.

2. Methods

2.1. Study area

The Bontebok National Park was established at its current location at Swellendam (Western Cape Province, South Africa, 34.03° S, 20.42° E) in 1960. The park is situated on the coastal

plain between the Langeberg Mountain range (5 km to its north) and the Indian Ocean (50 km to its south). The climate is moderate and the mean annual rainfall (1961–2005) is 528 mm (SANParks unpubl. data). Two peak rainfall periods are evident, one in April–May and the other in August, while the driest months are normally December and January (Novellie, 1986). Temperature ranges between a summer maximum of 40 °C and winter minimum of 0 °C. Prevailing winds are southeasterly in summer and northerly (dry warm bergwinds) or southwesterly (associated with cyclonic systems) in winter (Grobler and Marais, 1967).

Elevation ranges from 50 m (along the Breede River) to 114 m above mean sea level. Most of the park comprises alluvium and gravel terraces, with outcrops of consolidated rock (Witteberg series) only occurring along the Breede River (Theron, 1967). Gravel terraces of three ages can be recognized comprising roll-stones of quartz-like sandstone and sandy gravel (Theron, 1967). The north and central parts of the park consist of high-level silcrete and ferricrete, while the south-western flats comprise an alluvial belt of loam and sandy loam, probably an old meander of the river which was gradually filled by sand (Chief Director of Surveys and Land Information, 1993). The most recently acquired area in the west, known as 'Die Stroom', is characterized by shale and siltstone with occasional sandstone beds along the Breede River (Chief Director of Surveys and Land Information, 1993).

2.2. Checklist

This checklist was based on plant collections made by T. Kraaij between 2002 and 2009, as well as a herbarium collection kept at the park and contributed to by various researchers since the park's establishment, notably L.C.C. Liebenberg, P.J. Barnard, L.J. Van Zyl, J. Marais, M. Van Tonder, D.A. Doyle, A.T. Schemel, J.H.J. Vlok, P. Novellie, N.W. Hanekom and C.J. Burgers. The collection by T. Kraaij (comprising all 5-digit collection numbers) almost exclusively focussed on the area known as 'Die Stroom', acquired in 2002, less than 600 hectares in size, and also comprising Swellendam Silcrete Fynbos (Rebello et al., 2006) and Cape Lowland Alluvial Vegetation (Mucina et al., 2006). The majority of specimens contributing to this checklist were identified by staff of, and duplicates housed by, the National Herbarium (PRE) of the South African National Biodiversity Institute. A complete set of specimens are also housed by South African National Parks. Reference to plant species observed at BNP from published and grey literature (Grobler and Marais, 1967; Helme, 2008; McDonald, 2000; Raimondo et al., 2009; Rebello, 1992; Vlok and De Villiers, 2007) and from acknowledged botanical experts (M.B. Bayer *in litt.*; N. Helme *in litt.*; A.G. Rebello *in litt.*; A-L Schutte-Vlok *in litt.*; J.H.J. Vlok *in litt.*) have also been included in the list and are indicated as such.

Nomenclature and arrangement of the checklist follow Germishuizen et al. (2006), taking account of subsequent taxonomic revisions (Beier et al., 2003; Herman, 2002; Le Roux and Van Wyk, 2008; Magee et al., 2009; Manning et al., 2009; Moffett, 2007). Family, genus and species names are presented in alphabetical order, followed by author citation, collector's

number(s), growth form, range (CFR-endemic, range expansion or alien), and IUCN Red Data status (Raimondo et al., 2009). Growth form was obtained from POSA (2009), but simplified in that each plant species was assigned a single growth form, either Tree (maximum height >3 m), Shrub (1–3 m), Dwarf shrub (<1 m), Graminoid (including Poaceae, Restionaceae, Cyperaceae, Junaceae), Geophyte, Herb (herbaceous), Climber, or Succulent. CFR-endemism and whether taxa constitute significant range expansions were obtained from Goldblatt and Manning (2000), and alien status from Germishuizen et al. (2006).

The incidence of CFR-endemism (Goldblatt and Manning, 2000) was calculated for the flora of BNP and compared with that of Fynbos and Renosterveld vegetation types elsewhere. The flora of BNP was furthermore compared at species level by means of the Sørensen similarity coefficient (Sørensen, 1948) with that of several other protected areas in the region.

3. Results and discussion

3.1. Composition – families, genera, growth forms and CFR-endemism

Six-hundred-and-fifty plant species (and infraspecific taxa; Table 4) from 280 genera and 85 families have been recorded as indigenous to BNP. The most speciose families are the Asteraceae, Iridaceae, Poaceae and Fabaceae (Table 1). These families also rank highly in terms of the number of genera and, except for the Poaceae, in terms of the number of species of conservation concern (Raimondo et al., 2009; Table 1). Compared to the ranking of speciose families within the CFR (Goldblatt and Manning, 2002), the Asphodelaceae, Crassulaceae, Poaceae and Cyperaceae are overrepresented at BNP, whereas the Rutaceae, Proteaceae and Ericaceae are underrepresented. The most speciose genera at BNP are *Aspalathus* (19 species), *Crassula* (17), *Pelargonium* (16), *Erica* (16), *Oxalis* (12), *Moraea* (11), *Helichrysum* (10) and *Hermannia* (10). These genera also rank highly in terms of species number within the CFR, except for *Hermannia*. Twelve taxa constitute significant range expansions compared to distributions indicated by Goldblatt and Manning (2000) (Table 4).

Geophytes were the dominant (in terms of species number) growth form at BNP, followed by dwarf shrubs, herbs and graminoids (Fig. 1). Compared to the growth form composition of the entire CFR (Goldblatt and Manning, 2002), BNP has more geophytes (23% vs. CFR 17%) and graminoids (15% vs. CFR 9%), but fewer shrubs (the categories Shrub, Dwarf shrub, Succulent and Climber combined for BNP 43% vs. CFR 53%). Walton (2006), in West Coast Renosterveld, recorded 34% cryptophytes (\approx geophytes) and 14% hemicryptophytes (including graminoids and rosette-like asteroids), and found that hemicryptophyte richness was positively correlated with grazing (Walton, 2006). It may be argued that the comparative richness in geophytes and graminoids (grasses in particular) at BNP suggest Renosterveld affiliations, although a history of large herbivore grazing (Kraaij and Novellie, 2010) and frequent burning (Kraaij, 2010) in the park may have contributed to an increase in graminoids (cf. Cowling et al., 1986; Rebelo et al., 2006; Walton, 2006). Restioids, ericoids

Table 1

Largest plant families recorded at Bontebok National Park in terms of number of species (in decreasing order), number of genera, and number of Red Data species (Raimondo et al., 2009). Totals apply to all recorded indigenous taxa.

Family	Species	Genera	Species of conservation concern ^a (of which threatened ^b)
1 Asteraceae	84	38	3 (1)
2 Iridaceae	56	16	7 (3)
3 Poaceae	52	29	1 (0)
4 Fabaceae	34	13	8 (5)
5 Cyperaceae	23	8	1 (1)
6 Asphodelaceae	21	6	5 (4)
7 Hyacinthaceae	21	6	2 (1)
8 Scrophulariaceae ^c	20	11	2 (1)
9 Restionaceae	20	7	1 (0)
10 Crassulaceae	19	3	0
11 Geraniaceae	18	3	0
12 Mesembryanthemaceae ^d	17	10	4 (3)
13 Ericaceae	15	1	3 (3)
14 Orchidaceae	13	7	1 (0)
15 Polygalaceae	13	2	0
16 Amaryllidaceae	12	9	2 (1)
17 Oxalidaceae	12	1	0
18 Thymelaeaceae	10	3	1 (1)
19 Sterculiaceae	10	1	0
20 Proteaceae	9	5	1 (1)
21 Campanulaceae	9	4	1 (0)
22 Rutaceae	9	3	4 (4)
23 Lobeliaceae	8	3	0
TOTALS 85	650	280	52 (29)

^a Includes all IUCN Red Data categories higher than Least Concern.

^b Includes IUCN Red Data categories Critically Endangered, Endangered & Vulnerable.

^c Includes Selaginaceae.

^d Excludes Aizoaceae.

and proteoids are diagnostic of Fynbos vegetation with restioids regarded as the most constant floristic feature (Kruger, 1979; Taylor, 1978). Alternatively, the Ericaceae, Proteaceae and

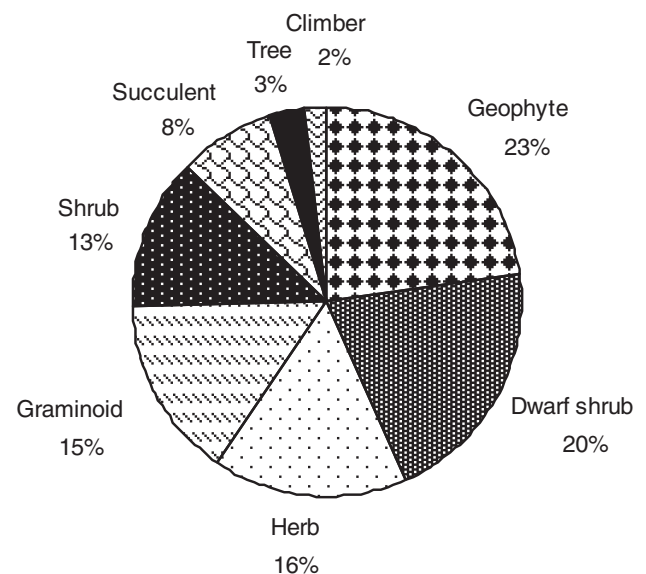


Fig. 1. Growth form composition of the indigenous plant species recorded at Bontebok National Park. Growth forms as defined under Methods.

Restionaceae are generally lacking in Renosterveld, or occur at low densities (Taylor, 1978). At BNP, the Ericaceae and Proteaceae are underrepresented and the Restionaceae similar in terms of proportional species richness to the CFR as a whole (Goldblatt and Manning, 2002).

Forty-six percent of the plant species at BNP are Cape-/CFR-endemics (Goldblatt and Manning, 2000), compared to 69% reported for the entire CFR (Goldblatt and Manning, 2002; Table 2). Generally, the high levels of endemism within the Cape flora are associated with its Fynbos component on nutrient-poor sandy substrates rather than with the non-fynbos elements, such as Renosterveld, on richer substrates (Cowling, 1984; Cowling et al., 1992; Kruger, 1979). Compared to different Fynbos and Renosterveld vegetation types elsewhere, the incidence of CFR-endemism at BNP seems intermediate between that of Fynbos and Renosterveld (Table 2). Both the assessments of familial composition and incidence of CFR-endemics thus equally support the suggestion that the vegetation of BNP exhibits floristic features of both Fynbos and Renosterveld (Rebello et al., 2006).

3.2. Species of conservation concern

Twenty-nine plant species recorded at BNP have been categorised (Raimondo et al., 2009) as being threatened with extinction at a global scale, of which one is Critically Endangered, 15 Endangered and 13 Vulnerable. Another 23 species are of conservation concern, of which 11 are Near Threatened, six Declining and six Data Deficient – Taxonomically Problematic. The Fabaceae (and *Aspalathus* in particular), Iridaceae, Asphodelaceae (*Haworthia* in particular) and Rutaceae have the largest numbers of Species of Conservation Concern (Table 1). Three species are endemic to the park, i.e. *Aspalathus burchelliana*, *Diosma fallax* and *Erica filamentosa*.

3.3. Alien species

Forty alien (cf. Richardson et al., 2000) plant species have been recorded from BNP, but this list should not be regarded as comprehensive, as alien species are often overlooked or intentionally omitted from biodiversity surveys/inventories (Pysek et al., 2004). Kruger et al., 1989 (cited in Richardson et al., 1992) reported 46 alien plant species for BNP, while PRECIS (PRE Computerised Information System database;

accessed through POSA, 2009) lists 67 alien plant species for the quarter degree grid squares (3420AB & 3420BA) within which BNP is located. According to the park checklist, the family with the largest number of alien invasive species is the grass family (Poaceae). Of the alien flora at BNP, alien invasive grasses likely pose the greatest biodiversity threat (Rebello et al., 2006) and management challenge, as their control is complicated by large and persistent seed banks, their positive response to disturbance, and the difficulty of effective mechanical control (Milton, 2004).

3.4. Study relevance

A comprehensive checklist of plants serves as a baseline to inform future management as well as to assess the effects of past management on the flora. The management of the park has been criticised in particular the application of a short-cycle burning programme (1970s–2003; Kraaij, 2010) to promote grazing for bontebok, which was presumed to be detrimental to the conservation of the full spectrum of plant species. Slow-maturing reseeding fynbos species may be particularly vulnerable to short-cycle fires (Van Wilgen et al., 1992). An analysis of the historic fire regime in the park (Kraaij, 2010) revealed that ecological thresholds relating to minimum fire return periods established for Fynbos vegetation (Van Wilgen et al., in press) have been exceeded in large parts of the park. This plant checklist in combination with the historical account of fires could be used to evaluate whether past management strategies at BNP have resulted in the elimination of plant species/guilds vulnerable to short-cycle fires. A large portion of the checklist (collection numbers with <5 digits) reflects collections made in the 1960s, prior to the instigation of the short-cycle fire regime. It would be informative for park management to assess whether those species collected in the 1960s that are vulnerable to frequent burning could still be found in the park.

Several difficulties were experienced in the compilation of this plant checklist. Principal among these were conflicting identifications (name changes and synonyms apart) and slow return rates for submitted and voucher specimens (up to three years). These difficulties possibly reflect the changing state of taxonomy in South Africa (Bayer, 2009; Mattson, 1999; Smith et al., 2008), with work as undertaken in this study being possible within a reasonable time frame only through the dedicated support and assistance from (frequently independent) taxonomic specialists.

Table 2
Incidence of Cape Floristic Region (CFR) endemism (Goldblatt and Manning, 2000) compared among different Fynbos and Renosterveld vegetation types.

Area	National vegetation type (Rebello et al., 2006)	% CFR-endemism	Source
Entire Cape Floristic Region	n/a	69	Goldblatt and Manning (2002)
Marloth Nature Reserve (Langeberg)	Langeberg Sandstone Fynbos	73	McDonald (1993); CapeNature unpubl. data
J. Briers Louw Nature Reserve (Agter-Paarl)	Swartland Alluvium Fynbos & Swartland Silcrete Renosterveld	56	McDowell (1995)
Bontebok National Park (Swellendam)	Swellendam Silcrete Fynbos	46	Current study
De Grendel (Tygerberg)	Swartland Shale Renosterveld	35	R.M. Cowling unpubl. data
Signal Hill (Cape Town)	Peninsula Shale Renosterveld	31	R.M. Cowling unpubl. data
Werner Frehse Nature Reserve (Riversdale)	Eastern Rûens Shale Renosterveld	20	K. Coetsee & J. Naude unpubl. data

3.5. Uniqueness and conservation value

With 20 plant species/km², the flora of BNP is considered to be rich (*cf.* Cowling and Holmes, 1992), although this measure is biased towards small areas. Species–area relationships established for floras of the south-western and south-eastern CFR show that floras of the former are richer than that of the latter (Cowling *et al.*, 1992). Despite BNP's location within the south-eastern CFR, its species density is intermediate between that predicted for an area the size of the park within the south-western and south-eastern CFR (940 and 430 species respectively; Cowling *et al.*, 1992).

The similarity of the flora of BNP and that of protected areas along the southern slopes of the nearby Langeberg Mountains is only 10–20% (Table 3). These areas largely comprise montane sandstone Fynbos (Rebelo *et al.*, 2006) which is expected to differ from the vegetation of BNP. However, considering the geographic proximity of BNP to these areas, the floristic similarity is remarkably low. Similarity with lowland floras in the region, *i.e.* De Hoop Nature Reserve on the Agulhas Plain and Werner Frehse Reserve on the Riversdale Plain, is not much higher (Table 3). These comparisons demonstrate that a large component of BNP's flora is not conserved elsewhere.

In landscape context, BNP forms part of a 'cluster of connected core sites' along the Breede River, identified as a priority for Renosterveld conservation on account of its biological richness and degree of landscape connectivity enabling the maintenance of key ecological processes (Von Hase *et al.*, 2003). Despite differences in the way in which the vegetation of BNP has been classified and described at various scales (Cowling and Heijnis, 2001; Cowling *et al.*, 2003; Rebelo *et al.*, 2006; Vlok and De Villiers, 2007; Von Hase *et al.*, 2003), assessments of conservation value or status at all scales (national, biome and regional) rate the vegetation at BNP as Endangered or Critically Endangered, and thus of high conservation importance.

To conclude, BNP has a diverse flora and the park serves an important function in both pattern and process conservation (Pressey *et al.*, 2003) – regionally, nationally, and in light of park-endemic species, even globally. Fortunately, the establishment of BNP with its initial exclusive aim of preserving a large mammal (as occurred elsewhere; Rebelo, 1997; Rouget *et al.*, 2003), turned out to have had the unintended outcome of preserving a diverse, and what later became, a highly threatened flora.

Acknowledgements

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Checklist of the plants of the Bontebok National Park (Table 4)

Nomenclature and arrangement of the checklist follow Germishuizen *et al.* (2006). The taxon names and authors are followed by the specimen number(s), literature reference or observation details; growth form; range; and Red Data status.

Abbreviations used:

Observations: 'obs' followed by the first letter of the observer(s)' surname in capitals, for Bayer *in litt.*, Helme *in litt.*, Kraaij pers. obs., Rebelo *in litt.*, Schutte-Vlok *in litt.*, or Vlok *in litt.*

Growth form: Cl, Climber; Dw, Dwarf shrub; Ge, Geophyte; Gr, Graminoid; He, Herb; Sh, Shrub; Su, Succulent; Tr, Tree.

Range: e, Cape Floristic Region endemic (Goldblatt and Manning, 2000); r, a significant range expansion compared to distribution indicated by Goldblatt and Manning (2000); *, alien (Germishuizen *et al.*, 2006); **, alien species planted for horticultural purposes.

Red Data status (Raimondo *et al.*, 2009): CR, Critically Endangered; EN, Endangered; VU, Vulnerable; NT, Near Threatened; DDT, Data Deficient – Taxonomically Problematic; Where status is not indicated, it is Least Concern.

Table 3

Similarity of the flora of the Bontebok National Park (BNP) to that of other protected areas in the vicinity. Comparisons were done at species level using the Sørensen similarity coefficient (Sørensen, 1948).

Protected area	Location in relation to BNP	Size	No. plant species	No. plant species shared with BNP	Sørensen similarity coefficient	Source
Marloth Nature Reserve	5 km north	11 238 ha	306	50	10%	McDonald (1993) & CapeNature (unpubl. data)
Southern Langeberg (Kogmanskloof to Gouritz River)	5 km north	174 857 ha	1215	190	20%	McDonald (1999)
Werner Frehse Nature Reserve	70 km east	195 ha	144	87	22%	K. Coetzee & J. Naude (unpubl. data)
De Hoop Nature Reserve	35 km south	34 000 ha	1397	322	33%	CapeNature (unpubl. data)

Table 4
Plant Checklist.

Taxon	Specimen number/observation	Growth form	Range	Red Data status
Pteridophyta				
Anemiaceae				
<i>Mohria caffrorum</i> (L.) Desv.	34778	Ge		
Gymnospermae				
Podocarpaceae				
<i>Podocarpus elongatus</i> (Aiton) L'Hér. ex. Pers.	666, 11	Tr	e	
Angiospermae				
Monocotyledonae				
Alliaceae				
<i>Tulbaghia capensis</i> L.	7155, 34933, 29643	Ge	e	
Amaryllidaceae				
<i>Ammocharis longifolia</i> (L.) M.Roem.	McDonald 2000	Ge		
<i>Boophone disticha</i> (L.f.) Herb.	obsK	Ge		Declining
<i>Brunsvigia orientalis</i> (L.) Aiton ex Eckl.	obsB	Ge		
<i>Crossyne guttata</i> (L.) D.Müll.-Doblies & U.Müll.-Doblies	obsS	Ge	e	
<i>Cyrtanthus leptosiphon</i> Snijman	obsH,V	Ge	e	CR
<i>Gethyllis afra</i> L.	McDonald 2000	Ge	e	
<i>Gethyllis spiralis</i> (Thunb.) Thunb.	6778	Ge	e, r	
<i>Gethyllis villosa</i> (Thunb.) Thunb.	34985	Ge		
<i>Haemanthus coccineus</i> L.	7975, 34988	Ge		
<i>Haemanthus sanguineus</i> Jacq.	7157	Ge	e	
<i>Hessea monticola</i> Snijman	29684	Ge	e, r	
<i>Nerine humilis</i> (Jacq.) Herb.	29683	Ge	e	
Aponogetonaceae				
<i>Aponogeton distachyos</i> L.f.	obsK	Ge	e	
Araceae				
<i>Zantedeschia aethiopica</i> (L.) Spreng.	675	Ge		
Asparagaceae				
<i>Asparagus aethiopicus</i> L.	obsB	Cl		
<i>Asparagus africanus</i> Lam.	29554, 34735	Cl		
<i>Asparagus burchellii</i> Baker	689	Sh		
<i>Asparagus capensis</i> L.	6536, 34759	Sh		
<i>Asparagus exuvialis</i> Burch.	obsB	Sh		
<i>Asparagus rubicundus</i> P.J.Bergius	622	Sh		
Asphodelaceae				
<i>Aloe ferox</i> Mill.	obsK	Tr		
<i>Aloe speciosa</i> Baker	obsB	Sh		
<i>Bulbine cepacea</i> (Burm.f.) Wijnands	6440	Ge	e	
<i>Bulbine foleyi</i> E.Phillips	34785	Ge		
<i>Bulbine lagopus</i> (Thunb.) N.E.Br.	6450, 29642	Ge		
<i>Bulbine longifolia</i> Schinz	6387	Ge		
<i>Bulbine mesembryanthoides</i> Haw.	29548	Ge		
<i>Bulbine praemorsa</i> (Jacq.) Spreng.	34953	Ge		
<i>Bulbinella barkeriae</i> P.L.Perry	6460a, 34800	Ge	e	
<i>Bulbinella nutans</i> (Thunb.) T.Durand & Schinz ssp. <i>nutans</i>	49	Ge		
<i>Bulbinella trinervis</i> (Baker) P.L.Perry	7202	Ge	e	
<i>Haworthia floribunda</i> Poelln. var. <i>major</i> M.B.Bayer	obsB	Su	e	EN
<i>Haworthia heidelbergensis</i> G.G.Sm. var. <i>heidelbergensis</i>	29503	Su	e	EN
<i>Haworthia marginata</i> (Lam.) Stearn	obsB,K	Su	e	VU
<i>Haworthia minima</i> (Aiton) Haw. var. <i>minima</i>	obsB,H,K	Su	e	
<i>Haworthia mirabilis</i> (Haw.) Haw. var. <i>triebneriana</i> (Poelln.) M.B.Bayer	obsB,H,K	Su	e	DDT
<i>Haworthia turgida</i> Haw.	34972	Su	e	
<i>Haworthia venosa</i> (Lam.) Haw. ssp. <i>venosa</i>	obsB,K	Su		VU
<i>Kniphofia uvaria</i> (L.) Oken	7148	He		
<i>Trachyandra muricata</i> (L.f.) Kunth	obsK	Ge		
<i>Trachyandra revoluta</i> (L.) Kunth	obsK	Ge		
Colchicaceae				
<i>Onixotis punctata</i> (L.) Mabb.	obsR	Ge	e	
<i>Wurmbea inusta</i> (Baker) B.Nord. x <i>W. marginata</i> (Desr.) B.Nord.	6563a	Ge	e	
<i>Wurmbea marginata</i> (Desr.) B.Nord.	34788	Ge	e	
<i>Wurmbea variabilis</i> B.Nord.	29641	Ge		

Table 4 (continued)

Taxon	Specimen number/observation	Growth form	Range	Red Data status
Cyperaceae				
<i>Cyperus marginatus</i> Thunb.	6769	Gr		
<i>Cyperus tenellus</i> L.f.	6679	Gr		
<i>Cyperus thunbergii</i> Vahl	6579, 640	Gr		
<i>Ficinia bulbosa</i> (L.) Nees	7198, 6745, 6581, 6465, 645, 38, 39	Gr		
<i>Ficinia deusta</i> (P.J.Bergius) Levyns	29578	Gr		
<i>Ficinia dura</i> Turrill	6678	Gr	e	EN
<i>Ficinia indica</i> (Lam.) Pfeiff.	6571, 6529, 6400	Gr		
<i>Ficinia nigrescens</i> (Schrad.) J.Raynal	29583	Gr		
<i>Ficinia nodosa</i> (Rottb.) Goetgh., Muasya & D.A.Simpson	6697	Gr		
<i>Ficinia oligantha</i> (Steud.) J.Raynal	6576, 645, 34771, 34777	Gr	e	
<i>Ficinia secunda</i> (Vahl) Kunth	Helme 2008	Gr	e	
<i>Fuirena hirsuta</i> (P.J.Bergius) P.L.Forbes	6681, 641	Gr		
<i>Isolepis antarctica</i> (L.) Roem. & Schult.	40	Gr	e	
<i>Isolepis diabolica</i> (Steud.) Schrad.	7149	Gr		
<i>Isolepis marginata</i> (Thunb.) A.Dietr.	6588, 34925a	Gr		
<i>Isolepis setacea</i> (L.) R.Br.	6688	Gr		
<i>Kyllinga erecta</i> Schumacher	6733	Gr		
<i>Schoenoxiphium ecklonii</i> Nees	29573	Gr	e	
<i>Scirpoides dioecus</i> (Kunth) Browning	6695	Gr		
<i>Tetraria bromoides</i> (Lam.) Pfeiff.	6720	Gr	e	
<i>Tetraria cuspidata</i> (Rottb.) C.B.Clarke a var. <i>cuspidata</i>	6683, 652, 34749, 34730	Gr		
<i>Tetraria microstachys</i> (Vahl) Pfeiff.	7201	Gr	e	
<i>Tetraria</i> sp. nov.	34908	Gr		
Eriospermaceae				
<i>Eriospermum graminifolium</i> A.V.Duthie	7160	Ge	e	
<i>Eriospermum paradoxum</i> (Jacq.) Ker Gawl.	obsB	Ge		
<i>Eriospermum pubescens</i> Jacq.	34728	Ge	e	
<i>Eriospermum zeyheri</i>	Helme 2008	Ge		
<i>Wachendorfia paniculata</i> Burm.	6498, 34798, 34996	Ge	e	
<i>Albucca canadensis</i> (L.) F.M. Leight.	6569, 34999	Ge		
Hyacinthaceae				
<i>Albucca cooperi</i> Baker	34991	Ge		
<i>Albucca suaveolens</i> (Jacq.) J.C. Manning & Goldblatt	617, 6450, 29544	Ge		
<i>Albucca viscosa</i> L.f.	6430	Ge		
<i>Drimys dregei</i> (Baker) J.C.Manning & Goldblatt	6759	Ge	e	
<i>Drimys exuviata</i> (Jacq.) Jessop	6477	Ge		
<i>Lachenalia contaminata</i> Aiton	6499, 34797	Ge	e	NT
<i>Lachenalia orchioides</i> (L.) Aiton	34761	Ge	e	
<i>Lachenalia physocaulos</i> W.F.Barker	6467, 2496	Ge	e	EN
<i>Lachenalia rosea</i> Andrews	6489, 6584	Ge	e	
<i>Lachenalia unifolia</i> Jacq.	34924	Ge		
<i>Ledebouria ovalifolia</i> (Schrad.) Jessop	34982	Ge	e	
<i>Ledebouria revoluta</i> (L.f.) Jessop	7163	Ge		
<i>Massonia depressa</i> Houtt.	obsR	Ge		
<i>Massonia pustulata</i> Jacq.	29502	Ge		
<i>Ornithogalum constrictum</i> F.M.Leight.	7971	Ge		
<i>Ornithogalum dubium</i> Houtt.	6422, 588, 18, 34994	Ge		
<i>Ornithogalum hispidum</i> Hornem.	58	Ge		
<i>Ornithogalum juncifolium</i> Jacq.	6693	Ge		
<i>Ornithogalum thyrsoides</i> Jacq.	19	Ge		
<i>Ornithogalum tortuosum</i> Baker	29555	Ge		
Hypoxidaceae				
<i>Empodium plicatum</i> (Thunb.) Garside	obsK	Ge	e	
<i>Hypoxis setosa</i> Baker	Helme 2008	Ge		
<i>Hypoxis villosa</i> L.f.	7162, 12	Ge		
<i>Spiloxene aquatica</i> (L.f.) Fourc.	678	Ge		
<i>Spiloxene capensis</i> (L.) Garside	6583, 686, 50, 34943	Ge	e	
Iridaceae				
<i>Aristea africana</i> (L.) Hoffmanns.	6575	He	e	
<i>Aristea dichotoma</i> (Thunb.) Ker Gawl.	6762	Ge	r	
<i>Aristea pusilla</i> (Thunb.) Ker Gawl.	6563, 29600	He		
<i>Babiana patersoniae</i> L.Bolus	601, 60, 61, 62, 34934	Ge		

(continued on next page)

Table 4 (continued)

Taxon	Specimen number/observation	Growth form	Range	Red Data status
Iridaceae				
<i>Babiana patula</i> N.E.Br.	6452, 6459, 29542	Ge	e	Declining
<i>Babiana ringens</i> (L.) Ker Gawl.	obsV	Ge	e	
<i>Babiana stricta</i> (Aiton) Ker Gawl.	6406	Ge		
<i>Bobartia filiformis</i> (L.f.) Ker Gawl	6522	He	e	
<i>Bobartia orientalis</i> J.B.Gillett	Helme 2008	He		
<i>Freesia caryophyllacea</i> (Burm.f.) N.E.Br.	obsK	Ge	e	Declining
<i>Freesia fergusoniae</i> L.Bolus	14	Ge	e	VU
<i>Geissorhiza heterostyla</i> L.Bolus	29538, 34932	Ge		
<i>Geissorhiza nana</i> Klatt	57	Ge	e	VU
<i>Geissorhiza ovata</i> (Burm.f.) Asch. & Graebn.	6453, 6604	Ge	e	
<i>Gladiolus floribundus</i> Jacq.	29649	Ge		
<i>Gladiolus grandiflorus</i> Andrews	6518, 34905	Ge	e	
<i>Gladiolus guthriei</i> F.Bolus	obsV	Ge	e	
<i>Gladiolus inflexus</i> Goldblatt & J.C.Manning	34939	Ge	e	
<i>Gladiolus liliaceus</i> Houtt.	677	Ge	e	
<i>Gladiolus permeabilis</i> D.Delaroche ssp. <i>permeabilis</i>	34992, 34993, 29680	Ge		
<i>Gladiolus rogersii</i> Baker	6372	Ge	e	
<i>Gladiolus virescens</i> Thunb.	6423	Ge	e	
<i>Hesperantha falcata</i> (L.f.) Ker Gawl	6542, 7399a, 58, 59, 29547	Ge	e	
<i>Ixia polystachya</i> L.	6479	Ge	e	?
<i>Lapeirousia corymbosa</i> (L.) Ker Gawl.	29654	Ge	e	Declining
<i>Melasmaerula ramosa</i> (L.) N.E.Br.	34971	Ge		
<i>Micranthus alopecuroides</i> (L.) Rothm.	6, DD23, 29651	Ge	e	
<i>Moraea bulbifera</i> (G.J.Lewis) Goldblatt ssp. <i>anomala</i>	681	Ge		
<i>Moraea collina</i> Thunb.	6384, 605, 56, 34904	Ge	e	
<i>Moraea fergusoniae</i> L.Bolus	29650	Ge	e	
<i>Moraea inconspicua</i> Goldblatt	29581, 29657	Ge		
<i>Moraea lugubris</i> (Salisb.) Goldblatt	34929	Ge	e	
<i>Moraea neglecta</i> G.J.Lewis	6587	Ge	e	
<i>Moraea setifolia</i> (L.f.) Druce	6444	Ge		
<i>Moraea tripetala</i> (L.f.) Ker Gawl	6415, 55, 29562	Ge		
<i>Moraea vegeta</i> L.	6416	Ge	e	
<i>Moraea virgata</i> Jacq.	6710	Ge		
<i>Moraea viscaria</i> (L.f.) Ker Gawl	6457	Ge	e	
<i>Romulea dichotoma</i> (Thunb.) Baker	35000	Ge	e	
<i>Romulea minutiflora</i> Klatt	6503	Ge		
<i>Romulea rosea</i> (L.) Eckl.	6408A, 29685	Ge		
<i>Romulea setifolia</i> N.E.Br.	52, 54	Ge		
<i>Romulea</i> sp. cf. <i>hirsuta</i> (Steud. ex Klatt) Baker	53	Ge		
<i>Tritonia cooperi</i> (Baker) Klatt ssp. <i>cooperi</i>	48	Ge	e	
<i>Tritonia deusta</i> (Aiton) Ker Gawl.	Vlok & De Villiers 2007	Ge	e	
<i>Tritonia flabellifolia</i> (D.Delaroche) G.J.Lewis var. <i>major</i> (Ker Gawl.) M.P.de Vos	1	Ge	e	
<i>Tritonia flabellifolia</i> (D.Delaroche) G.J.Lewis var. <i>flabellifolia</i>	29689	Ge	e	
<i>Tritonia pallida</i> Ker Gawl. ssp. <i>taylorae</i> (L.Bolus) M.P.de Vos	ATS34, 742	Ge	e	VU
<i>Tritoniopsis antholyza</i> (Poir.) Goldblatt	ATS33	Ge	e	
<i>Tritoniopsis triticea</i> (Burm.f.) Goldblatt	ATS1	Ge	e	
<i>Watsonia aletroides</i> (Burm.f.) Ker Gawl.	ATS30, 749, 29648	Ge	e	NT
<i>Watsonia angusta</i> Ker Gawl.	38	Ge		
<i>Watsonia fourcadei</i> J.W.Mathews & L.Bolus	McDonald 2000	Ge	e	
<i>Watsonia laccata</i> (Jacq.) Ker Gawl.	6461, 600, 602, DD17, 34704, 34998	Ge	e	
<i>Watsonia meriana</i> (L.) Mill.	McDonald 2000	Ge		
<i>Watsonia schlechteri</i> L.Bolus	ATS31, 747	Ge	e	
Juncaceae				
<i>Juncus acutus</i> L.	6696	Gr		
<i>Juncus capensis</i> Thunb.	47, 48	Gr		
<i>Juncus cephalotes</i> Thunb.	6541, 6691	Gr		
<i>Juncus scabriusculus</i> Kunth	34925	Gr	e	
Orchidaceae				
<i>Corycium orobanchoides</i> (L.f.) Sw.	6408	Ge	e	
<i>Disa bracteata</i> Sw.	obsK	Ge		
<i>Disa cornuta</i> (L.) Sw.	obsK	Ge		
<i>Disperis capensis</i> (L.f.) Sw.	obsR	Ge		
<i>Disperis circumflexa</i> (L.) T.Durand & Schinz ssp. <i>circumflexa</i>	obsV	Ge		

Table 4 (continued)

Taxon	Specimen number/observation	Growth form	Range	Red Data status
Orchidaceae				
<i>Disperis cucullata</i> Sw.	29676	Ge	e	NT
<i>Disperis villosa</i> (L.f.) Sw.	29533	Ge	e	
<i>Holothrix secunda</i> (Thunb.) Rchb.f.	7249	Ge		
<i>Holothrix villosa</i> Lindl.	MSB3811	Ge		
<i>Pterygodium alatum</i> (Thunb.) Sw.	6540, 34944	Ge	e	
<i>Pterygodium catholicum</i> (L.) Sw.	6409, 603, 64, 29675	Ge	e	
<i>Satyrium erectum</i> Sw.	34703	Ge		
<i>Schizodium bifidum</i> (Thunb.) Rchb.f.	29693	Ge		
Poaceae				
<i>Aira cupaniana</i> Guss.	639, 19	Gr	*	
<i>Aristida diffusa</i> Trin. ssp. <i>diffusa</i>	16	Gr		
<i>Aristida junciformis</i> Trin. & Rupr. ssp. <i>junciformis</i>	BNP, B6	Gr		
<i>Brachiaria serrata</i> (Thunb.) Stapf	6402, 6, 34748, 29646	Gr		
<i>Briza maxima</i> L.	6483, 30	Gr	*	
<i>Briza minor</i> L.	6482, 29	Gr	*	
<i>Cortaderia selloana</i> (Schult.) Asch. & Graebn.	obsR	Gr	*	
<i>Cymbopogon marginatus</i> (Steud.) Stapf ex Burtt Davy	6728, 7261	Gr		
<i>Cymbopogon pospischilii</i> (K.Schum.) C.E. Hubb.	1, 2, 29556, 34716	Gr		
<i>Cynodon dactylon</i> (L.) Pers.	6773, 6774	Gr		
<i>Digitaria eriantha</i> Steud.	7, 8, 9, 34760	Gr		
<i>Ehrharta bulbosa</i> Sm.	34725	Gr	e	
<i>Ehrharta calycina</i> Sm. var. <i>calycina</i>	6403, 642, 11, 29518, 34782	Gr		
<i>Ehrharta capensis</i> Thunb.	6538, 12	Gr	e	
<i>Ehrharta erecta</i> Lam. var. <i>erecta</i>	6441	Gr		
<i>Ehrharta longiflora</i> Sm.	6484	Gr		
<i>Ehrharta villosa</i> Schult.f. var. <i>villosa</i>	6551, 13, 14	Gr	e	
<i>Eragrostis capensis</i> (Thunb.) Trin.	6739, 655, 29522	Gr		
<i>Eragrostis curvula</i> (Schr.) Nees	6539, 6715, 6727, 25, 26, 27, 28, 5	Gr		
<i>Eragrostis gummiflua</i> Nees	6686	Gr		
<i>Eragrostis obtusa</i> Munro ex Ficalho & Hiern	72	Gr		
<i>Eustachys paspaloides</i> (Vahl) Lanza & Mattei	29517	Gr		
<i>Festuca scabra</i> Vahl	6462, 650, 34732	Gr		
<i>Hemarthria altissima</i> Stapf. & C.E. Hubb.	obsK	Gr		
<i>Heteropogon contortus</i> (L.) Roem. & Schult.	6712, 3, 4, 5	Gr		
<i>Hordeum murinum</i> L. ssp. <i>glaucum</i> (Steud.) Tzvelev	6442	Gr	*	
<i>Hyparrhenia hirta</i> (L.) Stapf	6749, 669, 34963	Gr		
<i>Karroochloa curva</i> (Nees) Conert & Türpe	6767	Gr		
<i>Karroochloa purpurea</i> (L.f.) Conert & Türpe	648, 29599	Gr		
<i>Koeleria capensis</i> (Steud.) Nees	6770	Gr		
<i>Leptochloa fusca</i> (L.) Kunth	7204, 1	Gr		
<i>Melica racemosa</i> Thunb.	353	Gr		
<i>Melinis repens</i> (Willd.) Zizka ssp. <i>repens</i>	obsK	Gr		
<i>Merxmüllera rufa</i> (Nees) Conert	6593	Gr	e	
<i>Merxmüllera stricta</i> (Schr.) Conert	6480, 6554, 647, 20, 29577	Gr		
<i>Panicum repens</i> L.	34964	Gr		
<i>Panicum stapfianum</i> Fourc.	6684	Gr		
<i>Paspalum dilatatum</i> Poir.	7	Gr	*	
<i>Pennisetum clandestinum</i> Hochst. ex Chiov.	obsR	Gr	*	
<i>Pennisetum macrourum</i> Trin.	6732, 10	Gr		
<i>Pennisetum setaceum</i> (Forssk.) Chiov.	obsR	Gr	*	
<i>Pentaschistis airoides</i> (Nees) Stapf ssp. <i>airoides</i>	24	Gr		
<i>Pentaschistis calcicola</i> H.P.Linder var. <i>calcicola</i> (Nees) Stapf	23	Gr	e	NT
<i>Pentaschistis cirrhulosa</i> (Nees)	7197, 656	Gr	e	
<i>Pentaschistis curvifolia</i> (Schr.) Stapf	6556, 21, 34757	Gr		
<i>Pentaschistis densifolia</i> (Nees) Stapf	22	Gr	e	
<i>Pentaschistis eriostoma</i> (Nees) Stapf	6555, 648, 34965	Gr		
<i>Pentaschistis malouinensis</i> (Steud.) Clayton	6673	Gr	e	
<i>Pentaschistis pallida</i> (Thunb.)	6685, 6565, 6496	Gr		
<i>Phalaris minor</i> Retz.	15	Gr	*	
<i>Phragmites australis</i> (Cav.) Steud.	obsR,K	Gr		
<i>Poa annua</i> L.	6495	Gr	*	
<i>Polypogon monspeliensis</i> (L.) Desf.	7399, 18	Gr	*	

(continued on next page)

Table 4 (continued)

Taxon	Specimen number/observation	Growth form	Range	Red Data status
Poaceae				
<i>Setaria sphacelata</i> (Schumach.) Moss var. <i>torta</i> (Stapf) Clayton	NW4, PN2a	Gr		
<i>Sporobolus africanus</i> (Poir.) Robyns & Tournay	6676, 7189, 17	Gr		
<i>Stipagrostis zeyheri</i> (Nees) De Winter ssp. <i>zeyheri</i>	6721, 6748, 16, 34766	Gr		
<i>Themeda triandra</i> Forssk.	6494, 671, 34717	Gr		
<i>Trachypogon spicatus</i> (L.f.) Kuntze	34981	Gr		
<i>Tribolium echinatum</i> (Thunb.) Renvoize	34, 35, 36	Gr	e	
<i>Tribolium hispidum</i> (Thunb.) Desv.	6766, 64	Gr		
<i>Tribolium oblitterum</i> (Hemsl.) Renvoize	6545	Gr	e	
<i>Tribolium uniolae</i> (L.f.) Renvoize	6731, 6746, 7398, 651, 31, 32, 33	Gr	e	
<i>Triraphis andropogonoides</i> (Steud.) E.Phillips	657, A9	Gr		
<i>Vulpia myuros</i> (L.) C.C.Gmel.	6488, 37	Gr	*	
Prioniaceae				
<i>Pronium serratum</i> (L.f.) Drège ex E.Mey.	Vlok & De Villiers 2007	Gr		Declining
Restionaceae				
<i>Calopsis adpressa</i> Esterh.	34739	Gr	e	
<i>Calopsis muirii</i> (Pillans) H.P.Linder	7203	Gr	e	DDT
<i>Calopsis viminea</i> (Rottb.) H.P.Linder	Helme 2008	Gr		
<i>Cannomois parviflora</i> (Thunb.) Pillans	6682	Gr	e	
<i>Hypodiscus striatus</i> (Kunth) Mast.	29539, 34903	Gr		
<i>Ischyrolepis capensis</i> (L.) H.P.Linder	6528	Gr	e	
<i>Ischyrolepis curviramis</i> (Kunth) H.P.Linder	34926	Gr	e	
<i>Ischyrolepis gaudichaudiana</i> (Kunth) H.P.Linder	682	Gr	e	
<i>Ischyrolepis triflora</i> (Rottb.) H.P.Linder	6734, 6735, 7161, 34792, 34793, 34937, 34938	Gr		
<i>Restio filiformis</i> Poir.	6470, 684	Gr	e	
<i>Restio multiflorus</i> Spreng.	34762	Gr	e	
<i>Restio pillansii</i> H.P.Linder	6687, 34701	Gr		
<i>Restio quadratus</i> Mast.	683	Gr	e	
<i>Restio triticeus</i> Rottb.	7192, 7206, 29540	Gr		
<i>Staberoha cernua</i> (L.f.) T.Durand & Schinz	45, 46	Gr	e, r	
<i>Staberoha distachyos</i> (Rottb.) Kunth	6399, 6698, 6527, 685	Gr	e	
<i>Thamnochortus cinereus</i> H.P.Linder	29549	Gr	e	
<i>Thamnochortus fruticosus</i> P.J.Bergius	6398, 696, 41, 42, 43, 44, 25	Gr		
<i>Thamnochortus guthrieae</i> Pillans	7200, 27, 28, 29, 29674	Gr	e	
<i>Thamnochortus lucens</i> (Poir.) H.P.Linder	6750, 34909, 34910	Gr	e	
Tecophilaeaceae				
<i>Cyanella hyacinthoides</i> L.	6779, 51	Ge		
<i>Cyanella lutea</i> L.f.	6560, 33, 34990, 34995	Ge		
Dicotyledonae				
Acanthaceae				
<i>Barleria pungens</i> L.f.	6761, 34702	He		
<i>Chaetacanthus setiger</i> (Pers.) Lindl.	29565	Dw		
Aizoaceae				
<i>Aizoon rigidum</i> L.f. var. <i>angustifolium</i> Sond.	638	Su		
<i>Galenia africana</i> L.	596	Sh		
<i>Galenia collina</i> (Eckl. & Zeyh.) Walp.	6437	Dw		
Anacardiaceae				
<i>Searsia angustifolia</i> (L.) F.A.Barkley	688	Sh	e	
<i>Searsia incisa</i> (L.f.) F.A.Barkley	34789	Sh		
<i>Searsia laevigata</i> (L.) F.A.Barkley	661	Sh		
<i>Searsia lancea</i> (L.f.) F.A.Barkley	11	Sh		
<i>Searsia lucida</i> (L.) F.A.Barkley	25	Sh		
<i>Searsia pallens</i> (Eckl. & Zeyh.) Moffett	Helme 2008	Sh		
<i>Searsia rosmarinifolia</i> (Vahl) F.A.Barkley	34741	Sh	e	
Apiaceae				
<i>Annesorhiza nuda</i> (Aiton) B.L.Burt	6672	He	e	
<i>Arctopus echinatus</i> L.	34918	He		
<i>Centella glabrata</i> L.	29527, 29552	He	e	
<i>Chamarea capensis</i> (Thunb.) Eckl. & Zeyh.	7151, 29588	He		
<i>Notobubon ferulaceum</i> (Thunb.) Magee	34743	He		
Apocynaceae				
<i>Carissa bispinosa</i> (L.) Desf. ex Brenan	obsK	Tr		
<i>Catharanthus roseus</i> (L.) G.Don	obsR	Dw	*	

Table 4 (continued)

Taxon	Specimen number/observation	Growth form	Range	Red Data status
Apocynaceae				
<i>Cynanchum obtusifolium</i> L.f. var. <i>obtusifolium</i> L.f.	659	Cl		
<i>Gomphocarpus cancellatus</i> (Burm.f.) Bruyns	29579	Sh		
<i>Microloma sagittatum</i> R. Br.	634, 29596	Cl		
<i>Microloma tenuifolium</i> (L.) K.Schum.	5	Cl		
<i>Sarcostemma viminale</i> (L.) R.Br.	34970	Cl		
Asteraceae				
<i>Arctotheca calendula</i> (L.) Levyns	6446, 694, 10	He		
<i>Arctotheca prostrata</i> (Salisb.) Britten	6501, 34942	He		
<i>Arctotis acaulis</i> L.	6600, 673, 94, 29591	He		
<i>Arctotis petiolata</i> Thunb.	6404, 24	He		
<i>Athanasia juncea</i> (DC.) D.Dietr.	7193	Sh	e	
<i>Athanasia quinqueidentata</i> Thunb.	29688	Dw	e	
<i>Athanasia trifurcata</i> L.	6725, 593, 29557	Sh	e	
<i>Berkheya armata</i> (Vahl) Druce	6564, 34723	He	e	
<i>Berkheya rigida</i> (Thunb.) Bol. & Wolley-Dod. ex Adamson & Salter	6737, 34979	Sh	e	
<i>Chrysanthemoides monilifera</i> (L.) T. Norl.	6433, 595, 6	Sh		
<i>Chrysocoma ciliata</i> L.	6417, 7622, 29521, 34914	Dw		
<i>Corymbium africanum</i> L. ssp. <i>scabridum</i> (P.J.Bergius) Weitz	13	He		
<i>Cotula turbinata</i> L.	6391, 6410, 692, 34794, 34775	He	e	
<i>Cotula zeyheri</i> Fenzl	6605	He	e	
<i>Dicerothermus rhinocerotis</i> (L.f.) Koekemoer	34724	Sh		
<i>Dimorphotheca nudicaulis</i> (L.) DC.	6599	Dw	e	
<i>Disparago ericoides</i> (P.J.Bergius) Gaertn.	6751, 7970	Dw	e	
<i>Edmondia sesamoides</i> (L.) Hilliard	103	Dw	e	
<i>Eriocephalus africanus</i> L.	29514	Sh		
<i>Euryops abrotanifolius</i> (L.) DC.	obsK	Sh	e	
<i>Euryops ericoides</i> (L.f.) B.Nord.	7174	Dw	e	
<i>Euryops tenuissimus</i> (L.) DC.	34958	Sh		
<i>Felicia filifolia</i> (Vent.) Burt Davy	34784	Dw		
<i>Felicia hirsuta</i> DC.	6561, 7186, 34764	Dw		
<i>Felicia minima</i> (Hutch.) Grau	6443	He		
<i>Felicia tenella</i> (L.) Nees	29505, 34922	He	e	
<i>Gazania ciliaris</i> DC.	95, 29507	He	e	
<i>Gazania krebsiana</i> Less. ssp. <i>krebsiana</i>	604	He		
<i>Gazania krebsiana</i> Less. ssp. <i>arctotoides</i> (Less.) Roessler	6381	He		
<i>Gerbera crocea</i> (L.) Kuntze	29598	He	e	
<i>Gerbera tomentosa</i> DC.	97	He	e	
<i>Gnaphalium declinatum</i> L.f.	6716	He	e	NT
<i>Gnaphalium pauciflorum</i> DC.	6546	He	e	
<i>Gorteria diffusa</i> Thunb. ssp. <i>diffusa</i>	598, 637	He		
<i>Gorteria personata</i> L. <i>gracilis</i> Roessler	6411, 29506	He	e	
<i>Helichrysum asperum</i> (Thunb.) Hilliard & B.L.Burt var. <i>albidulum</i> (DC.) Hilliard	6747	Dw		
<i>Helichrysum asperum</i> (Thunb.) Hilliard & B.L.Burt var. <i>glabrum</i> Hilliard	6756, 44	Dw		
<i>Helichrysum indicum</i> (L.) Grierson	6709	He	e	
<i>Helichrysum moesianum</i> Thell.	6738	He		
<i>Helichrysum pandurifolium</i> Schrank	34941	Sh	e	
<i>Helichrysum plebeium</i> DC.	6531	Dw	e	
<i>Helichrysum rosum</i> (P.J.Bergius) Less. var. <i>rosum</i>	7185, 34781	Dw		
<i>Helichrysum rutilans</i> (L.) D.Don	6557, 695, 34731	Dw		
<i>Helichrysum teretifolium</i> (L.) D.Don	6523, 6753, 29510	Dw		
<i>Helichrysum zeyheri</i> Less.	34781	Dw		
<i>Heterolepis peduncularis</i> DC.	34750	Dw	e	
<i>Hippia frutescens</i> (L.) L.	34734	Sh	e	
<i>Hirpicium integrifolium</i> (Thunb.) Less.	96	Dw	e	
<i>Hypochoeris glabra</i> L.	6491	He	*	
<i>Hypochoeris radicata</i> L.	obsR	He	*	
<i>Macleodium spinosum</i> (L.) S.Ortiz	6780, 29567	Dw		
<i>Metalasia acuta</i> P.O.Karis	6537, 6719, 6764, 34747	Sh	e	
<i>Metalasia densa</i> (Lam.) P.O.Karis	7154, 7184	Sh		
<i>Oedera capensis</i> (L.) Druce	6566, 663, 93	Dw	e	
<i>Oedera genistifolia</i> (L.) Anderb. & K.Bremer	6549	Dw		
<i>Oedera imbricata</i> Lam.	34767	Dw		

(continued on next page)

Table 4 (continued)

Taxon	Specimen number/observation	Growth form	Range	Red Data status
Asteraceae				
<i>Oedera squarrosa</i> (L.) Anderb. & K.Bremer	6434, 586, 34755	Sh	e	
<i>Oedera uniflora</i> (L.f.) Anderb. & K.Bremer	7	Dw	e	
<i>Osteospermum imbricatum</i> L. ssp. <i>imbricatum</i>	7169, 29559	Sh		
<i>Osteospermum polygaloides</i> L. var. <i>polygaloides</i>	7176	Sh		
<i>Pteronia elongata</i> Thunb.	29656	Dw		
<i>Pteronia hirsuta</i> L.f.	56	Dw	e	
<i>Pteronia incana</i> (Burm.) DC.	34919	Sh		
<i>Relhania pungens</i> L'Hér. ssp. <i>pungens</i>	6744, 29682	Dw		
<i>Rhynchosidium sessiliflorum</i> (L.f.) DC.	6429	He		
<i>Senecio angustifolius</i> (Thunb.) Willd.	6724	He	e	
<i>Senecio arenarius</i> Thunb.	6392, 633	He	e	
<i>Senecio crassulaefolius</i> (DC.) Sch.Bip.	34967	Su		
<i>Senecio hastifolius</i> (L.f.) Less.	6509	He	e	
<i>Senecio juniperinus</i> L.f. var. <i>juniperinus</i>	6723	He		
<i>Senecio laevigatus</i> Thunb. var. <i>laevigatus</i>	6534	He	e	
<i>Senecio rehmannii</i> Bolus	7207, 29632	Dw	e	DDT
<i>Senecio rosmarinifolius</i> L.f.	6694	Dw		
<i>Seriphium plumosum</i> L.	700	Sh		
<i>Stoebe capitata</i> P.J.Bergius	7179, 29528	Dw		
<i>Stoebe rugulosa</i> Harv.	7164, 7259	Dw	e	EN
<i>Syncarpha canescens</i> (L.) B.Nord. ssp. <i>canescens</i>	ATS32, 29525	Dw	e	
<i>Tarchonanthus littoralis</i> P.P.J.Herman	14	Tr		
<i>Tripteris aghillana</i> DC var. <i>aghillana</i>	34758	Su		
<i>Troglophyton capillaceum</i> (Thunb.) Hilliard & B.L.Burtt ssp. <i>capillaceum</i>	6487	He		
<i>Ursinia anthemoides</i> (L.) Poir. ssp. <i>anthemoides</i>	6390, 34776	He		
<i>Ursinia chrysanthemoides</i> (Less.) Harv.	6598, 618	He		
<i>Ursinia discolor</i> (Less.) N.E.Br.	6383, 7159, 698, 34769, 34927	Dw	e	
<i>Ursinia nana</i> DC. ssp. <i>nana</i>	6390, 6414, 589, 29512	He		
<i>Ursinia nudicaulis</i> (Thunb.) N.E.Br.	7194, 628	He		
<i>Ursinia paleacea</i> (L.) Moench	6601, 29584, 34753	Dw	e	
Boraginaceae				
<i>Lobostemon argenteus</i> (P.J.Bergius) H.Buek	DD16	Dw		
<i>Lobostemon paniculatus</i> (Thunb.) H.Buek	29587	Dw		
<i>Lobostemon strigosus</i> (Lehm.) H.Buek	34751	Sh		
Brassicaceae				
<i>Brachycarpaea juncea</i> (P.J.Bergius) Marais	6407	Dw		
<i>Heliophila bulbostyla</i> P.E.Barnes	6468	He		
<i>Heliophila elongata</i> (Thunb.) DC.	7191	Dw		
<i>Heliophila macra</i> Schltr.	29597	Sh	e	
<i>Heliophila pendula</i> Willd.	6393a	He		
<i>Heliophila pusilla</i> L.f.	6393b	He	e	
<i>Heliophila subulata</i> Burch. ex DC.	34907	He		
<i>Raphanus raphanistrum</i> L.	obsR	He	*	
Bruniaceae				
<i>Berzelia intermedia</i> (D.Dietr.) Schltld.	70	Sh	e	
Buddlejaceae				
<i>Buddleja saligna</i> Willd.	6705, 690	Tr		
Cactaceae				
<i>Opuntia ficus-indica</i> (L.) Mill.	obsR	Su	*	
<i>Opuntia monacantha</i> (Willd.) Haw.	obsR	Su	*	
Campanulaceae				
<i>Microcodon glomeratum</i> A.DC.	34931	He	e	
<i>Prismatocarpus fruticosus</i> L'Hér.	29572, 34984	Dw	e	
<i>Prismatocarpus pedunculatus</i> (P.J.Bergius) A.DC.	6760, 7158, 29678	He	e	
<i>Roella bryoides</i> H.Buek.	6708	He	e	DDT
<i>Wahlenbergia calcarea</i> (Adamson) Lammers	7188	Dw	e	
<i>Wahlenbergia cinerea</i> (L.f.) Lammers	29687	Dw		
<i>Wahlenbergia exilis</i> A.DC.	6781	He	e	
<i>Wahlenbergia paniculata</i> (Thunb.) A.DC.	7175	He	e	
<i>Wahlenbergia tenella</i> (L.f.) Lammers var. <i>palustris</i> (Adamson) W.G.Welman	6736, 34916	Dw		
Caryophyllaceae				
<i>Dianthus caespitosus</i> Thunb.	32	He	e	
<i>Petrorhagia prolifera</i> (L.) Ball & Heywood	34950	He	*	

Table 4 (continued)

Taxon	Specimen number/observation	Growth form	Range	Red Data status
Caryophyllaceae				
<i>Pollichia campestris</i> Aiton	34959	Dw		
<i>Polycarpon tetraphyllum</i> (L.) L. <i>tetraphyllum</i>	7246	He	*	
<i>Silene burchellii</i> Otth	69	He		
<i>Silene gallica</i> L.	6458	He	*	
<i>Silene pilosellifolia</i> Cham. & Schltld.	29673	He		
<i>Stellaria media</i> (L.) Vill.	6512	He	*	
Celastraceae				
<i>Gymnosporia buxifolia</i> (L.) Szyszyl.	obsR	Tr		
<i>Pterocelastrus tricuspidatus</i> (Lam.) Walp.	obsK	Tr		
Chenopodiaceae				
<i>Exomis microphylla</i> (Thunb.) Aellen	29568	Dw		
Commelinaceae				
<i>Commelina africana</i> L.	6783, 29551	He		
Convolvulaceae				
<i>Convolvulus bidentatus</i> Bernh. ex C.Krauss	29647	Cl		
<i>Convolvulus capensis</i> Burm.f.	6763, 88	Cl		
<i>Cuscuta nitida</i> Choisy	obsK	He	e	
Crassulaceae				
<i>Adromischus maculatus</i> (Salm-Dyck) Lem.	6771	Su	e	
<i>Bryophyllum delagoense</i> (Eckl. & Zeyh.) Shinz	obsK	Su	*	
<i>Cotyledon orbiculata</i> L.	DD1	Su		
<i>Crassula ciliata</i> L.	6702, 697, 29511	Su	e	
<i>Crassula ericoides</i> Haw. ssp. <i>tortuosa</i> Toelken	29508, 34763	Su		
<i>Crassula ericoides</i> Haw. ssp. <i>ericoides</i>	7182, 653, 34772, 34902	Su		
<i>Crassula expansa</i> Dryand ssp. <i>expansa</i> var. <i>expansa</i>	6435, 34978	Su		
<i>Crassula fallax</i> Friedrich	29511	Su	e	
<i>Crassula flava</i> L.	7177	Su	e	
<i>Crassula lanceolata</i> (Eckl. & Zeyh.) Endl. ex Walp. ssp. <i>lanceolata</i>	6486a, 34969	Su		
<i>Crassula multiflora</i> Schönland & Baker f. ssp. <i>multiflora</i>	34968	Su	e	
<i>Crassula muscosa</i> L. var. <i>muscosa</i>	34969	Su		
<i>Crassula nudicaulis</i> L. var. <i>nudicaulis</i>	6784, 7977, 34961	Su		
<i>Crassula orbicularis</i> L.	34966	Su		
<i>Crassula perforata</i> Thunb.	34960	Su		
<i>Crassula pubescens</i> Thunb. ssp. <i>pubescens</i>	29509	Su		
<i>Crassula strigosa</i> L.	34974	Su		
<i>Crassula subulata</i> L. var. <i>subulata</i>	6786, 6759, 6717, ATS4, 34772	Su		
<i>Crassula tetragona</i> L. ssp. <i>tetragona</i>	7165, 34780	Su		
<i>Crassula thunbergiana</i> Schult. ssp. <i>thunbergiana</i> (Schonland x Baker f.) Toelken	6486b	Su		
Dipsacaceae				
<i>Scabiosa columbaria</i> L.	6507, 29564	He		
Droseraceae				
<i>Drosera cistiflora</i> L.	6603	He		
<i>Drosera trinervia</i> Spreng.	6380, 29574	He		
Ebenaceae				
<i>Diospyros glabra</i> (L.) De Winter	6580, 687	Sh	e	
<i>Euclea undulata</i> Thunb.	12, 34956	Tr		
Ericaceae				
<i>Erica cerinthoides</i> L.	6752, 610, 79	Sh		
<i>Erica discolor</i> Andrews	261, DD10	Sh	e	
<i>Erica dispar</i> (N.E.Br.) E.G.H.Oliv.	29696	Dw	e	VU
<i>Erica ericoides</i> (L.) E.G.H.Oliv.	7208	Dw	e	
<i>Erica filamentosa</i> Andrews	81, 226	Sh	e	VU
<i>Erica glabella</i> Thunb. ssp. <i>laevis</i> E.G.H.Oliv.	607	Dw	e	
<i>Erica klotzschii</i> (Alm & T.C.E.Fr.) E.G.H.Oliv.	29536	Dw	e	
<i>Erica lasciva</i> Salisb.	obsV	Dw	e	
<i>Erica peltata</i> Andrews	7209, 240, 34722b	Sh	e	
<i>Erica placentiflora</i> Salisb.	582	Dw	e	
<i>Erica plumosa</i> Thunb.	6464, 581, 583, 3158, 29669	Dw	e	
<i>Erica prolata</i> E.G.H.Oliv. & I.M.Oliv.	6476	Sh	e	EN
<i>Erica puberuliflora</i> E.G.H.Oliv.	6379, 584, 585, 29537, 34722a	Dw	e	
<i>Erica quadrangularis</i> Salisb.	7195, 6427, 6481, 85, 86, 87	Dw	e	
<i>Erica versicolor</i> Andrews. var. <i>ciliata</i> J.C.Wendl.	6497, 623, 80, 82, 83, 84	Sh	e	

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Table 4 (continued)

Taxon	Specimen number/observation	Growth form	Range	Red Data status
Euphorbiaceae				
<i>Clutia laxa</i> Eckl. ex Sond.	34945	Sh		
<i>Clutia tomentosa</i> L.	34727	Sh	e	
<i>Euphorbia arceuthoboides</i> Boiss.	34912	Su		
<i>Euphorbia burmannii</i> E.Mey. ex Boiss.	obsR	Su		
<i>Euphorbia ecklonii</i> (Klotzsch & Garcke) A.Hässl.	29580	Su	e	
<i>Ricinus communis</i> L. var. <i>communis</i>	obsK	Tr	*	
Fabaceae				
<i>Acacia cyclops</i> A.Cunn. ex G.Don	obsK	Tr	*	
<i>Acacia karroo</i> Hayne	10	Tr		
<i>Acacia mearnsii</i> De Wild.	obsK	Tr	*	
<i>Acacia saligna</i> (Labill.) H.L. Wendl.	obsK	Tr	*	
<i>Argyrolobium pachyphyllum</i> Schltr.	34989	Dw	e	EN
<i>Aspalathus aciphylla</i> Harv.	6515	Sh	e	
<i>Aspalathus acuminata</i> Lam. ssp. <i>acuminata</i>	6742, 29504, 34980	Sh		
<i>Aspalathus biflora</i> E.Mey. ssp. <i>biflora</i>	7196, 29660	Dw		
<i>Aspalathus burchelliana</i> Benth.	29663, 34790	Dw	e	EN
<i>Aspalathus ciliaris</i> L.	6675, 29659, 34752	Sh	e	
<i>Aspalathus crassisejala</i> R.Dahlgren	obsS	Dw	e	
<i>Aspalathus grobleri</i> R.Dahlgren	7199, 6526, 3159, 29670, 29664, 29529	Dw	e	EN
<i>Aspalathus hispida</i> Thunb. ssp. <i>albiflora</i> (Eckl. & Zeyh.) R.Dahlgren	6777	Sh		
<i>Aspalathus incompta</i> Thunb.	6432, 3161, 29668, 34975	Sh	e	NT
<i>Aspalathus laricifolia</i> P.J.Bergius ssp. <i>canescens</i> (L.) R.Dahlgren	6532, 29661, 29655, 29661	Dw	e	
<i>Aspalathus laricifolia</i> P.J.Bergius ssp. <i>laricifolia</i>	6718, 29662, 29558	Dw	e	
<i>Aspalathus lebeckioides</i> R.Dahlgren	6677, 34802	Dw	e	VU
<i>Aspalathus longipes</i> Harv.	Helme 2008	Dw	e	
<i>Aspalathus nigra</i> L.	6419, 6568, 6558, 703, 34718	Dw	e	
<i>Aspalathus parviflora</i> P.J.Bergius	6420, 6533, 29672, 29515, 34774	Dw	e	
<i>Aspalathus quinquefolia</i> L. ssp. <i>virgata</i> (Thunb.) R.Dahlgren	6704	Sh	e	
<i>Aspalathus smithii</i> R.Dahlgren	7153	Dw	e	EN
<i>Aspalathus spinosa</i> L. ssp. <i>spinosa</i>	7172, 6424, 597, 29550	Sh		
<i>Aspalathus tridentata</i> L. ssp. <i>tridentata</i>	6711, 6775, 29658, 34983	Dw	e	
<i>Crotalaria capensis</i> Jacq.	7972	Sh	r	
<i>Indigofera heterophylla</i> Thunb.	6455, 7173, 34742	Dw		
<i>Lebeckia contaminata</i> (L.) Thunb.	6706	He	e	DDT
<i>Lebeckia cytisoides</i> Thunb.	664, 16	Sh	e	
<i>Lebeckia simsiana</i> Eckl. & Zeyh.	6463, 28, 34738	Dw		
<i>Lessertia frutescens</i> (L.) Goldblatt & JC Manning	6490	Sh		
<i>Lotononis umbellata</i> (L.) Benth.	6520, 29667, 34921, 29694	He	e	
<i>Podalyria myrtillifolia</i> (Retz.) Willd.	658, 34952	Sh	e	
<i>Psoralea aphylla</i> L.	36, ATS5	Tr	e	
<i>Psoralea asarina</i> (P.J.Bergius) T.M.Salter	6741	Dw	e	NT
<i>Tephrosia capensis</i> (Jacq.) Pers.	6596, 29523	Sh		
<i>Virgillia oroboides</i> (P.J.Bergius) Salter	23	Tr		
<i>Wiborgia obcordata</i> (P.J.Bergius) Thunb.	6707, 7969, 29690	Sh	e	
Fumariaceae				
<i>Fumaria muralis</i> Sond. ex W.D.J.Koch	obsR	He	*	
Gentianaceae				
<i>Chironia decumbens</i> Levyns	8, ATS2	He		
<i>Chironia linoides</i> L. ssp. <i>linoides</i>	7974	He		
<i>Sebaea aurea</i> (L.f.) Roem. & Schult.	4, 29575	He	e	
<i>Sebaea scabra</i> Schinz	6456, 587, 34707	He	e	NT
Geraniaceae				
<i>Erodium moschatum</i> (L.) L'Hér.	6511, 34928	He		
<i>Monsonia emarginata</i> (L.f.) L'Her.	Helme 2008	He		
<i>Pelargonium alchemilloides</i> (L.) L'Hér.	ATS21	Dw		
<i>Pelargonium candicans</i> Spreng.	6521, 608, 34768, 34947	Dw	e	
<i>Pelargonium crispum</i> (P.J.Bergius) L'Hér.	34705	Dw	e	
<i>Pelargonium dipetalum</i> L'Hér.	ATS13	Ge	e	
<i>Pelargonium grossularioides</i> (L.) L'Hér.	ATS8, ATS22	He		
<i>Pelargonium hermannifolium</i> (P.J.Bergius) Jacq.	6448, 702, 22	Dw	e, r	
<i>Pelargonium lobatum</i> (Burm.f.) L'Hér	29520	Ge	e	
<i>Pelargonium longifolium</i> (Burm.f.) Jacq.	7210, ATS23	Ge	e	
<i>Pelargonium myrrhifolium</i> (L.) L'Hér. var. <i>coriandrifolium</i> (L.) Harv.	34913	Dw		

Table 4 (continued)

Taxon	Specimen number/observation	Growth form	Range	Red Data status
Geraniaceae				
<i>Pelargonium myrrhifolium</i> (L.) L'Hér. var. <i>myrrhifolium</i>	ATS9	Dw		
<i>Pelargonium odoratissimum</i> (L.) L'Hér.	ATS20	Dw		
<i>Pelargonium ovale</i> (Burm.f.) L'Hér	6466, 625, 34799	Dw	e	
<i>Pelargonium peltatum</i> (L.) L'Hér.	34955	He		
<i>Pelargonium pilosellifolium</i> (Eckl. & Zeyh.) Steud.	Helme 2008	Ge	e	
<i>Pelargonium pinnatum</i> (L.) L'Hér.	ATS24	Ge	e	
<i>Pelargonium triste</i> (L.) L'Hér.	ATS14, 34770	Ge		
Hemerocallidaceae				
<i>Caesia contorta</i> (L.f.) T.Durand & Schinz	6680	He		
Lamiaceae				
<i>Leonotis ocyimifolia</i> (Burm.f.) Iwarsson	6438	Sh		
<i>Salvia chamelaeagnea</i> P.J.Bergius	7180, 594, ATS3	Sh		
<i>Stachys aethiopica</i> L.	6431	He		
Lanariaceae				
<i>Lanaria lanata</i> (L.) T.Durand & Schinz	6676a, DD22	Ge		
Lentibulariaceae				
<i>Utricularia bisquamata</i> Schrank	6772	He		
Linaceae				
<i>Linum</i> sp.	34729	Dw		
Lobeliaceae				
<i>Cyphia digitata</i> (Thunb.) Willd. ssp. <i>digitata</i>	6396, 34706, 29590	Cl		
<i>Cyphia incisa</i> (Thunb.) Willd. var. <i>lyrata</i> E.Wimm.	6559	He	e, r	
<i>Cyphia volubilis</i> (Burm.f.) Willd. var. <i>banksiana</i> E.Wimm.	6396	Cl		
<i>Lobelia coronopifolia</i> L.	6382	He	e, r	
<i>Lobelia linearis</i> Thunb. var. <i>pinnata</i> Schltr.	34976	He	e	
<i>Lobelia tomentosa</i> L.f.	29560	He		
<i>Monopsis debilis</i> (L.f.) C.Presl var. <i>depressa</i> (L.f.) Phillipson	6690, 29665	He		
<i>Monopsis lutea</i> (L.) Urb.	6692	He	e	
Malvaceae				
<i>Hibiscus aethiopicus</i> L. var. <i>aethiopicus</i>	7170, 34987	He		
<i>Hibiscus pusillus</i> Thunb.	34986	He		
Melanthaceae				
<i>Melianthus major</i> L.	obsR	Sh		
Menispermaceae				
<i>Cissampelos capensis</i> L.f.	590	Cl		
Mesembryanthemaceae				
<i>Acrodon bellidiflorus</i> (L.) N.E.Br.	34779	Su	e	
<i>Carpobrotus deliciosus</i> (L.Bolus) L.Bolus	6597, DD3	Su		
<i>Carpobrotus edulis</i>	DD4	Su		
<i>Cephalophyllum diversiphyllum</i> (Haw.) H.E.K.Hartmann	34915	Su	e	NT
<i>Dorotheanthus bellidiformis</i> (Burm.f.) N.E.Br.	6552, 672	Su		
<i>Drosanthemum floribundum</i> (Haw.) Schwantes	6550	Su		
<i>Drosanthemum lavisii</i> L.Bolus	obsB	Su	e	EN
<i>Drosanthemum striatum</i> (Haw.) Schwantes	6602	Su	e	VU
<i>Erepsia anceps</i> L.Bolus	6594	Su		
<i>Lampranthus caudatus</i> L.Bolus	7980, 616	Su	e	EN
<i>Lampranthus elegans</i> (Jacq.) Schwantes	6516	Su	e	
<i>Ruschia cymosa</i> (L.Bolus) Schwantes	7978	Su		
<i>Ruschia lineolata</i> (Haw.) Schwantes	6513, 34957, MSB3808	Su	e	
<i>Ruschia multiflora</i> (Haw.) Schwantes	6700, 6701	Su		
<i>Ruschia rigida</i> (Haw.) Schwantes	34736	Su	e	
<i>Scopelogena verruculata</i> (L.) L.Bolus	34962	Su	e	
<i>Trichodiadema gracile</i> L.Bolus	7255, 34930	Su	e	
Molluginaceae				
<i>Adenogramma glomerata</i> (L.f.) Druce	6413, 7247	He		
<i>Adenogramma mollugo</i> Rchb.f.	34923	He	e	
<i>Pharnaceum dichotomum</i> L.f.	6389, 6412	He		
<i>Pharnaceum elongatum</i> (D.C.) Adamson	67, 68	Dw		
Montiniaceae				
<i>Montinia caryophyllacea</i> Thunb.	29566, 34906	Sh		
Myricaceae				
<i>Morella quercifolia</i> (L.) Killick	6525	Dw		

(continued on next page)

Table 4 (continued)

Taxon	Specimen number/observation	Growth form	Range	Red Data status
Myrsinaceae				
<i>Rapanea melanophloeos</i> (L.) Mez	591	Tr		Declining
Myrtaceae				
<i>Eucalyptus camaldulensis</i> Dehnh.		Tr	*	
Neuradaceae				
<i>Grielim humifusum</i> Thunb.	5	He	r	
Oleaceae				
<i>Olea europaea</i> L. ssp. <i>africana</i> (Mill.) P.S.Green	13	Tr		
Orobanchaceae				
<i>Hyobanche sanguinea</i> L.	6595, 92, DD15, 34951	He		
Oxalidaceae				
<i>Oxalis caprina</i> L.	6585	Ge		
<i>Oxalis ciliaris</i> Jacq.	34935	Ge		
<i>Oxalis convexula</i> Jacq.	29593	Ge	e	
<i>Oxalis engleriana</i> Schltr.	34791	Ge	e	
<i>Oxalis flava</i> L.	34917	Ge		
<i>Oxalis glabra</i> Thunb.	7171	Ge	e, r	
<i>Oxalis lanata</i> L.f. var. <i>rosea</i> T.M.Salter	6500	Ge	e	
<i>Oxalis obtusa</i> Jacq.	34708	Ge		
<i>Oxalis pes-caprae</i> L. var. <i>pes-caprae</i>	6445, 619, DD8	Ge		
<i>Oxalis punctata</i> L.f.	7187	Ge		
<i>Oxalis purpurea</i> L.	679	Ge		
<i>Oxalis zeekoevleyensis</i> R.Kunth	DD9	Ge	e	
Passiflora				
<i>Passiflora coerulea</i> L.	obsR	Cl	*	
Phytolaccaceae				
<i>Phytolacca octandra</i> L.	obsR	He		
Plumbaginaceae				
<i>Limonium linifolium</i> (L.f.) Kuntze	15	Dw		
<i>Muraltia acerosa</i> Harv.	6758, 3162, 29679	Dw	e	
Polygalaceae				
<i>Muraltia dispersa</i> Levyns	631, 29563, 34796	Dw	e	
<i>Muraltia ericoides</i> (Burm.f.) Steud.	6674, 7152, 40	Dw	e	
<i>Muraltia heisteria</i> (L.) DC.	667, 29501, 34756	Sh	e	
<i>Muraltia muraltioides</i> (Eckl. & Zeyh.) Levyns	2473, 29681	Dw	e	
<i>Muraltia parvifolia</i> N.E.Br.	34737	Dw	e	
<i>Muraltia pungens</i> Schltr.	29576	Dw	e	
<i>Muraltia rhamnoides</i> Chodat	6405	Dw	e	
<i>Polygala bracteolata</i> L.	Helme 2008	Dw	e	
<i>Polygala fruticosa</i> P.J.Bergius	6436, 668, 35, 29666	Sh		
<i>Polygala garcinii</i> DC.	51, 29595a	He	e	
<i>Polygala refracta</i> DC.	29592	Dw		
<i>Polygala umbellata</i> L.	6478, 62, 29595b	He	e	
Polygonaceae				
<i>Polygonum undulatum</i> (L.) P.J.Bergius	29585	Dw	e	
<i>Rumex cordatus</i> Poir.	34911, 34973	He		
<i>Rumex sagittatus</i> Thunb.	34948	He		
Portulacaceae				
<i>Anacampseros lanceolata</i> (Haw.) Sweet ssp. <i>nebrownii</i> (Poelln.) Gerbaulet	29530	Su		
Primulaceae				
<i>Anagallis arvensis</i> L.	6535, 29582	He	*	
Proteaceae				
<i>Brabejum stellatifolium</i> L.	obsR	Tr	e	
<i>Hakea sericea</i> Schrad. & J.C.Wendl.	obsK	Sh	*	
<i>Leucadendron brunioides</i> Meisn. var. <i>brunioides</i>	6547, 609	Sh	e	
<i>Leucadendron salignum</i> P.J.Bergius	6567, 635, 34719, 34720	Sh		
<i>Leucadendron tinctum</i> I.Williams	DD14	Sh	**	
<i>Leucospermum calligerum</i> (Salisb. ex Knight) Rourke	6425, 612, 21, DD5	Sh	e	
<i>Leucospermum conocarpodendron</i> (L.) H.Buek	27	Tr	**	
<i>Leucospermum cordifolium</i> (Salisb. ex Knight) Fourc.	18	Sh	**	
<i>Leucospermum cuneiforme</i> (Burm.f.) Rourke	6475, 611, 65, 66	Sh	e	
<i>Leucospermum gerrardi</i> Stapf	19	Dw	**	
<i>Leucospermum reflexum</i> H.Buek ex Meisn.	482	Tr	**	
<i>Protea burchellii</i> Stapf	obsR	Sh	**	

Table 4 (continued)

Taxon	Specimen number/observation	Growth form	Range	Red Data status
Proteaceae				
<i>Protea decurrens</i> E.Phillips	29698	Dw	e	EN
<i>Protea laurifolia</i> Thunb.	3	Tr	**	
<i>Protea nerifolia</i> R.Br.	2	Sh	**	
<i>Protea piscina</i> Rourke	29697	Dw	e	
<i>Protea repens</i> (L.) L.	obsR	Sh		
<i>Serruria acrocarpa</i> R.Br.	6506, 34746	Dw	e	
Ranunculaceae				
<i>Clematis brachiata</i> Thunb.	obsR	Cl		
Rhamnaceae				
<i>Phylica ericoides</i> L. var. <i>ericoides</i>	615, 34721	Dw	e	
<i>Phylica mundii</i> Pillans	34715	Dw	e	
<i>Phylica velutina</i> Sond.	614	Dw	e	NT
<i>Trichocephalus stipularis</i> (L.) Brongn.	7183, 613	Sh	e	
Rosaceae				
<i>Cliffortia ruscifolia</i> L.	624, 34726	Sh	e	
<i>Cliffortia strobilifera</i> L.	7973	Sh		
Rubiaceae				
<i>Anthospermum aethiopicum</i> L.	34949	Sh		
<i>Anthospermum galioides</i> Rchb.f. ssp. <i>galioides</i>	6385, 34773	Dw		
<i>Anthospermum spathulatum</i> Spreng. ssp. <i>spathulatum</i>	6726, 34754	Sh		
<i>Canthium inerme</i> (L.f.) Kuntze	24	Tr		
Rutaceae				
<i>Acmadenia laxa</i> I.Williams	6590, 3163, 34710	Dw	e	EN
<i>Acmadenia obtusata</i> (Thunb.) Bartl. & H.L.Wendl.	MSB3807	Dw	e	
<i>Agathosma</i> sp. nov.	29677, 34977	Dw		
<i>Agathosma ciliaris</i> (L.) Druce	15, 29531	Dw	e	
<i>Agathosma imbricata</i> (L.) Willd.	6474	Dw	e	
<i>Agathosma microcarpa</i> (Sond.) Pillans	obsR	Dw	e	VU
<i>Agathosma serpyllacea</i> Licht. ex roem. & Schult.	29531, 34801	Dw	e	
<i>Diosma fallax</i> I.Williams	831, 29671	Dw	e	EN
<i>Diosma passerinoides</i> Steud.	29695	Dw	e	VU
Salicaceae				
<i>Salix mucronata</i> Thunb. ssp. <i>mucronata</i>	obsK	Tr		
Santalaceae				
<i>Osyris compressa</i> (P.J.Bergius) A.DC.	obsK	Tr		
<i>Thesium flexuosum</i> A.DC.	6582	Dw	r	
<i>Thesium frisea</i> L. var. <i>frisea</i>	6782	He	e	DDT
<i>Thesium funale</i> L.	34920	Dw	e	
<i>Thesium subnudum</i> Sond.	29589	Dw	e	
<i>Thesium virgatum</i> Lam.	6562	He	e	
Sapindaceae				
<i>Dodonaea viscosa</i> Jacq. var. <i>angustifolia</i> (L.f.) Benth.	636, 29571	Tr		
Sapotaceae				
<i>Sideroxylon inerme</i> L.	Grobler & Marais 1967; obsK	Tr		
Scrophulariaceae				
<i>Freylinia undulata</i> (L.f.) Benth.	6543, 34711	Sh	e	
<i>Halleria lucida</i> L.	obsR	Tr		
<i>Hebenstretia repens</i> Jaroszc	6394	He	e	
<i>Hemimeris racemosa</i> (Houtt.) Merr.	6553, 691, 34940, 34954	He		
<i>Jamesbrittenia argentea</i> (L.f.) Hilliard	6586	Dw	e	
<i>Manulea cheiranthus</i> (L.) L.	29532, 34901	He	e	
<i>Nemesia barbata</i> (Thunb.) Benth.	29569, 29570	He		
<i>Phyllopodium capillare</i> (L.f.) Hilliard	29513	He	e	NT
<i>Selago ciliata</i> L.f.	6765	He	e	
<i>Selago corymbosa</i> L.	6743	Dw	e	
<i>Selago dolosa</i> Hilliard	7167, 6510, 29561	Dw		
<i>Selago fruticosa</i> L.	90, 34733	Dw	e	
<i>Selago glandulosa</i> Choisy	6754b	Dw	e	VU
<i>Selago grandiceps</i> Hilliard	6447, 621, 91	He	e	
<i>Selago nigrescens</i> Rolfe	6754a, 7178, 47a	He	e	
<i>Selago scabrada</i> Thunb.	61, 47b	He	e	
<i>Sutera aethiopica</i> (L.) Kuntze	6454, 6578, 7251, 34744	Dw	e	

(continued on next page)

Table 4 (continued)

Taxon	Specimen number/observation	Growth form	Range	Red Data status
Scrophulariaceae				
<i>Sutera hispida</i> (Thunb.) Druce	34745	Dw	e	
<i>Zaluzianskya</i> sp.	obsR	He		
Solanaceae				
<i>Lycium tenue</i> Willd.	8	Sh		
<i>Solanum linnaeanum</i> Hepper & Jaeger	6530, 662	Sh		
<i>Solanum tomentosum</i> L.	29516	Sh		
Sterculiaceae				
<i>Hermannia alnifolia</i> L.	6449, 6591, 6426, 29553, 34714	Dw		
<i>Hermannia althaeifolia</i> L.	29546	He		
<i>Hermannia cuneifolia</i> Jacq.	34765	Dw		
<i>Hermannia decumbens</i> Willd. ex Spreng.	6592, 627, 76	Dw	e	
<i>Hermannia diffusa</i> L.f.	29545	Dw	e	
<i>Hermannia diversistipula</i> C.Presl ex Harv. var. <i>diversistipula</i>	34783	Dw	e	
<i>Hermannia filifolia</i> L.f. var. <i>filifolia</i>	6397, 649, 73, 29524, 34946	Dw		
<i>Hermannia flammae</i> Jacq.	34713	Dw		
<i>Hermannia flammula</i> Harv.	7168, 74, 75	Dw	e	
<i>Hermannia hyssopifolia</i> L.	654	Sh		
Thymelaeaceae				
<i>Gnidia laxa</i> (L.f.) Gilg	34740	Dw	e	
<i>Gnidia spicata</i> (L.f.) Gilg	7252	Dw	e	VU
<i>Passerina corymbosa</i> Eckl. ex C.H.Wright	660, 77, 29526	Sh		
<i>Passerina rubra</i> C.H.Wright	6574, 699, 34712, 29534	Dw		
<i>Struthiola argentea</i> Lehm.	630, 701, 68	Sh		
<i>Struthiola ciliata</i> (L.) Lam. ssp. <i>ciliata</i>	29535, 29543	Sh		
<i>Struthiola confusa</i> C.H.Wright	6703, 6395, 606, 632	Dw	e, r	
<i>Struthiola fasciata</i> C.H.Wright	6755, 6471	Dw	e	
<i>Struthiola mundii</i> Eckl. ex Meisn.	7979, 629, 524	Dw	e	
<i>Struthiola striata</i> Lam.	34795	Dw	e	
Tiliaceae				
<i>Grewia occidentalis</i> L.	592, 3	Sh		
Zygophyllaceae				
<i>Roepera flexuosa</i> (Eckl. & Zeyh.) Beier & Thulin	29594	Dw	e	
<i>Roepera fulva</i> (L.) Beier & Thulin	6460	Sh		

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