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Richness, composition and relationships of the floras of selected forests in southern Africa

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ABSTRACT

Species lists of 14 widely separated forests representing particular geographic regions in southern Africa were used to study the size and composition of the individual floras, the similarities between them, and possible determinants of the observed patterns. The forests contain 1 438 species which belong to 155 families and 661 genera. The growth form spectra show specific patterns amongst the individual forests such as an abundance of ferns in montane forests, and of woody plants and vines in coastal forests. The richness of a forest flora increases with increasing altitudinal range within the forest. Significant linear species-area relationships exist for both woody and herbaceous species, but explain only 30% and 38% of the variation respectively in the size of the floras. In a multiple regression model the number of dispersal corridors, the proximity to other forests and mean altitude explained 81% of the variation in the number of woody species. The number of landscape types and of dispersal corridors explained 75% of the variation in number of herbaceous species. Several other factors contribute to the disproportionately large floras of relatively small forests such as at Umtamvuna, Sabie and Richards Bay. A high proportion of unique taxa are present (30% woody and 42% herbaceous species). The shared taxa show definite trends of the southward attenuation of species and the presence of elements of the Afromontane and Indian Ocean Coastal Regions. In conclusion, it is suggested that the southern Cape forests have been isolated from forests along the escarpment and mountains to the east since at least the Pliocene due to the Sundays River valley which stretches from the coast to the escarpment in the arid interior.

UITTREKSEL

Soortlyste van 14 geïsoleerde woude wat spesifieke geografiese streke in suidelike Afrika verteenwoordig, is gebruik om die grootte en samestelling van individuele floras, die ooreenkomste tussen hulle, en moontlike bepalende faktore van die waargenome patrone te bestudeer. Die woude bevat 1 438 spesies wat tot 155 families en 661 genera behoort. Die verskeidenheid groeivorms toon spesifieke patrone by individuele woude, soos 'n oorvloed van varings in bergwoude, en van houtagtige soorte en rankers in kuswoude. Die rykdom van 'n woudflora neem toe met toenemende wydte van die grense in hoogte bo seespieël binne die woud. Betekenisvolle liniêre spesies-area-verhoudings bestaan vir beide houtagtige en kruidagtige soorte, maar verklaar slegs 30% en 38% onderskeidelik van die variasie in die grootte van die floras. In 'n meervoudige regressie-model verklaar die aantal migrasieroetes, die nabyheid aan ander woude en gemiddelde hoogte bo seespieël 81% van die variasie in die aantal houtagtige soorte. Die aantal landskaptipes en migrasieroetes verklaar 75% van die variasie in aantal kruidagtige soorte. Verskeie ander faktore dra by tot die buitengewoon groot floras van relatief klein woude soos by Umtamvuna, Sabie en Richardsbaai. 'n Hoë persentasie unieke taksons kom voor (30% houtagtige en 42% kruidagtige soorte). Die gedeelde soorte toon definitiewe neigings tot die suidwaartse vermindering van soorte en die teenwoordigheid van soorte van die Afromontaanse streke en die kusgebiede van die Indiese Oseaan. Ten slotte word voorgestel dat die Suid-Kaapse woude ten minste sedert die Plioseen van die woude langs die eskarp en berge na die ooste geïsoleer is as gevolg van die Sondagsriviervallei wat strek vanaf die kus tot by die eskarp in die droë binneland.

INTRODUCTION

Many forest species have a wide distribution in southern Africa (Palgrave 1977; Von Breitenbach 1986) and characterize two main floristic regions (White 1978, 1983; Moll & White 1978). Forests of the Afromontane Region occur along the Drakensberg escarpment, the Natal and eastern Cape midlands and the southern and southwestern Cape mountains and coastal plateaux. Tongaland-Pondoland forests of the Indian Ocean Coastal Region occur along the coastal dunes and lowlands. The distribution of many other species overlaps the two regions. Transitional forests in the drier lowlands and river valleys between the two regions such as Kaffrarian Subtropical Transitional Thicket in the eastern Cape (Cowling 1984; Everard 1987) and similar types in Natal (Edwards 1967) contain species of both regions. The strong southern attenuation of species has been attributed to the subtropical temperate transition (Scheepers 1978; Tinley 1985; Cawe 1986) and the increasing fragmentation of forests due to climatic deterioration (Geldenhuys 1989). The few widely separated, large forests are interspersed with many smaller forests (Anon. 1987).

The aims of this study were twofold; firstly, to determine the floristic richness of widely separated forests which represent the different geographic regions in southern Africa and for which comprehensive checklists exist, and the floristic relationships between them. There is a need for this because recent studies of southern African flora have excluded the forest flora because of the small size of the forest biome and the difficulties posed by the techniques used to study relationships between floras (Gibbs Russell 1985, 1987). Furthermore, the studies of White (1978, 1983) and Moll & White (1978) focused on tree species only; secondly, to determine the most likely of several possible sources for the variation in size, composition and interrelationships of the floras. Based on biogeographic principles, the following factors are considered (Brown & Gibson 1983): the size and spatial separation of the individual forests; the role of dispersal

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corridors and barriers; the climatic gradient from tropical northeast to temperate southwest and from the mountains to the coast; habitat diversity within a forest, including climatic and edaphic gradients and disturbance regimes; speciation centres, the development of wider tolerance ranges through different ecotypes of a species, and the increase in smaller and more herbaceous growth forms with a more confined distribution due to increased stress.

STUDY AREA AND METHODS

Fourteen forests or forest complexes (several smaller forests in close proximity in the same geographical region) were selected because relatively detailed floristic information was available for them and because they represented different geographic areas of the forest biome in southern Africa (Figure 1). The forests varied greatly in extent, altitudinal range, geographic location, degree of isolation, geology, landscape types, surrounding vegetation types, and rainfall and temperature regimes (Tables 1 & 2). Values for size of the Transvaal and Natal forests were obtained from Cooper (1985), and for forests in Transkei, Ciskei and the Cape Province from relevant floristic sources.

Various published and unpublished species lists (Taylor 1955; Killick 1963; Moll 1969, 1978, 1980; Van der Schijff & Schoonraad 1971; Venter 1972; Campbell & Moll 1977; McKenzie *et al.* 1977; McKenzie 1978; Scheepers 1978; Weisser 1980; Weisser & Drews 1980; Nicholson 1982; Abbott 1985; Deall 1985; Burns 1986; Cawe 1986; Phillipson 1987; Lubke & Strong 1988; Geldenhuys 1989; C.J. Geldenhuys unpubl. data) were used to compile a list of species for each forest (see Appendix). Each species was classified as canopy tree, subcanopy tree, woody shrub, soft shrub, liane (woody climber), vine (herbaceous climber), fern (terrestrial) with erect or creeping rhizome, epiphyte, geophyte, graminoid or forb using the system of Geldenhuys *et al.* (1988). Only presence or absence of a species was indicated for each forest.

Woody and herbaceous plants were separated for the different analyses because the two categories show contrasting patterns along the climatic gradients from mountain to coast (Geldenhuys & MacDevette 1989).

The effect of forest size on species richness was investigated by means of the species-area relationship $S = cA^z$, where S is the number of species, A is area and c and z are constants. These were fitted by means of a linear log.log regression. The relationship between the logarithm of the number of woody or herbaceous species in a forest and several environmental variables was determined by means of the stepwise forward selection procedure of multiple regression analysis (STSC 1986; Kleinbaum & Kupper 1978). The following independent variables were included: log forest size (ha); log mean altitude (m); log altitudinal range (m); distance from the tropical source as measured along the forest zone from arbitrary points, i.e. the Zimbabwe border for the mountain forests, and the Mozambique border for coastal

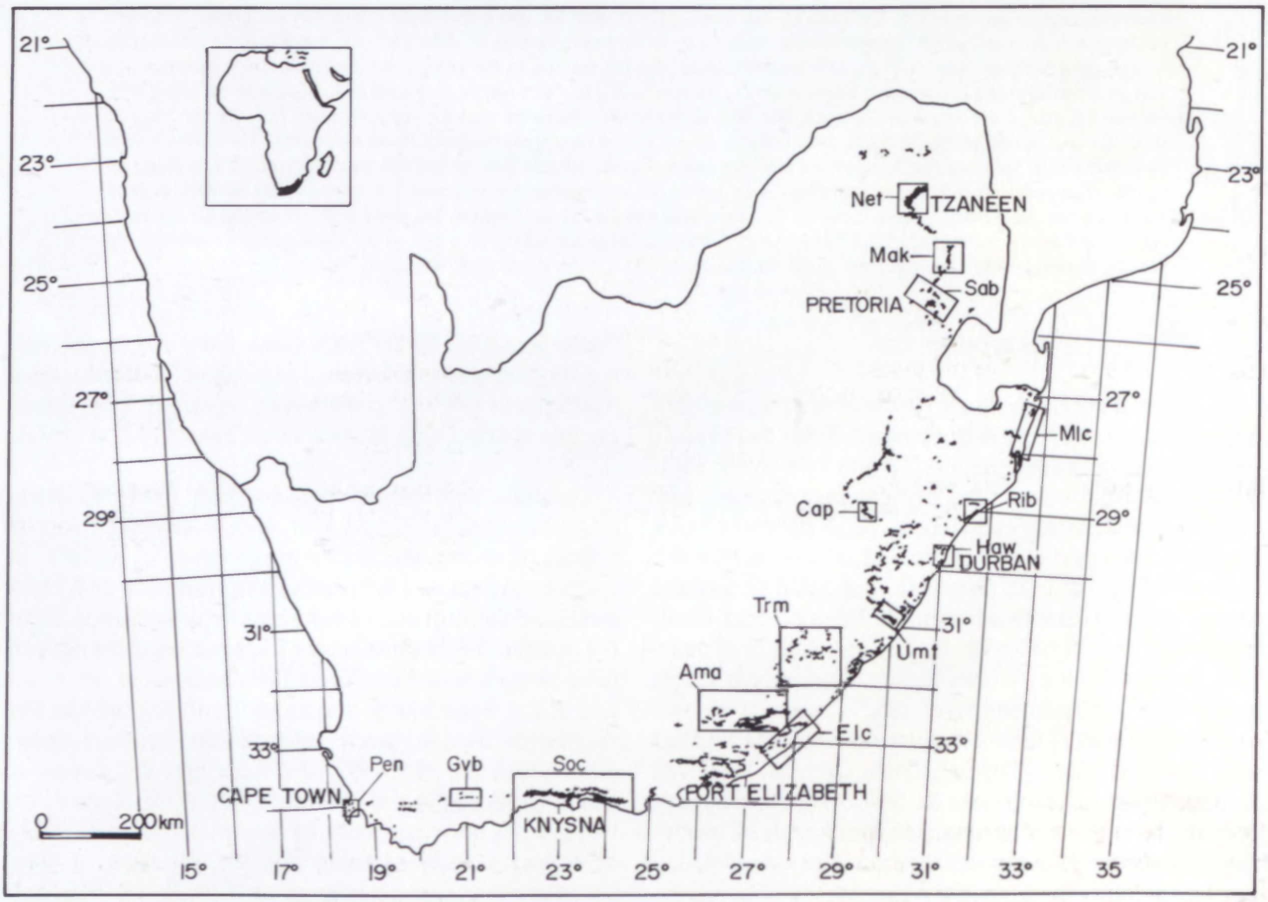

FIGURE 1.—Distribution of the forests in southern Africa. International political boundaries are not indicated in order not to clutter the forest pattern. The location of the study areas is indicated as follows: Ama, Amatole Mountains; Cap, Cathedral Peak; Elc, East London coast; Gvb, Grootvadersbosch; Haw, Hawaan; Mak, Mariepskop; Mlc, Maputaland coast; Net, northeastern Transvaal escarpment; Pen, Cape Peninsula; Rib, Richards Bay; Sab, Sabie transect; Soc, southern Cape; Trm, Transkei mountains; Umt, Umtamvuna Gorge.

TABLE 1.—Environmental data for forests included in this study

Forest*	Size ha	Grid reference and altitude m (mean)	Geology	Landscape types	Other vegetation
Pen	150	34.0°S 18.5°E 150–730 (260)	Quartzite Granite	Mountain slope Valley	Fynbos
Gvb	250	34.0°S 20.8°E 200–1 100 (300)	Quartzite Shale	Mountain slope Valley Gorge	Fynbos Renosterveld Thicket
Soc	60 500	34.0°S 24.5°E 34.0°S 22.0°E 5–1 220 (240)	Quartzite Shale Schist Conglomerate Dune sand	Mountain slope Coastal platform Coast scarp Gorge and valley Dune	Fynbos Thicket
Ama	8 000	32.7°S 27.2°E 700–1 250 (1 000)	Shale Sandstone Mudstone Dolerite	Mountain slope Mountain plateau Escarpment Valley	Alpine Grassland Thornveld Thicket
Elc	1 000	32.6°S 28.4°E 33.6°S 27.0°E 5–180 (50)	Dune sand Shale Mudstone Dolerite	Dune Valley Estuary	Thicket Thornveld Grassland Marshes
Trm	15 000	31.5°S 28.5°E 600–1 400 (1 000)	Shale Mudstone Sandstone Dolerite	Mountain slope Mountain plateau Escarpment Valley	Alpine Grassland Thornveld Thicket
Umt	1 100	31.0°S 30.2°E 50–500 (200)	Quartzite Shale	Gorge Coastal platform	Grassland Thornveld
Haw	100	29.7°S 31.1°E 15–60 (30)	Dune sand	Dune	Grassland Woodland
Rib	540	28.8°S 32.0°E 10–70 (30)	Dune sand Alluvium (mud) River	Dune Estuary Woodland	Grassland Marshes
Mlc	11 400	28.4°S 32.4°E 26.8°S 32.8°E 10–100 (30)	Dune sand Limestone	Dune Estuary River valley	Marshes Grassland Woodland
Cap	350	29.0°S 29.3°E 1 280–1 830 (1 500)	Sandstone Shale Dolerite	Mountain slope Gorge Escarpment	Grassland Alpine Woodland
Sab	1 100	25.2°S 30.6°E 500–1 600 (1 200)	Quartzite Granite Shale Dolomite	Mountain slope Mountain plateau Valley Escarpment	Woodland Grassland Thicket
Mak	2 950	24.5°S 30.9°E 760–1 900 (1 200)	Quartzite Shale Granite Conglomerate	Mountain slope Mountain plateau Valley Escarpment	Woodland Grassland Thicket
Net	6 600	23.7°S 30.0°E 750–1 400 (1 200)	Granite Xenolith	Mountain slope Mountain plateau Escarpment Valley	Woodland Grassland Thicket

* Ama, Amatole Mountains; Cap, Cathedral Peak; Elc, East London coast; Gvb, Grootvadersbosch; Haw, Hawaan; Mak, Mariepskop; Mlc, Maputaland coast; Net, northeastern Transvaal escarpment; Pen, Cape Peninsula; Rib, Richards Bay; Sab, Sabie transect; Soc, southern Cape; Trm, Transkei mountains; Umt, Umtamvuna Gorge.

forests; the proximity to other large forests (1 for close to several large forests; 2 for close to several small forests but distant from large forests; 3 for very isolated from most forests); the number of geological types (quartzite, sandstone, mudstone, limestone, dolerite, dolemite, shale, schist, conglomerate, granite and dune sand); the number of landscape types (mountain slope, mountain plateau, escarpment, valley, gorge, estuary and dune); the number of plant dispersal corridors present (mountain range, escarpment, river, and coastal dune system); and the number of different structural vegetation types surrounding the forest (fynbos, renosterveld, grassland, thornveld, woodland and thicket).

Information for the last four variables was obtained from descriptions of the study areas of the relevant floristic sources.

The index of similarity of Czekanowski (IsC) (as used by Rogers & Moll 1975), expressed as percentage, was used to compare similarity between forests, where IsC = 200w/(a+b), a and b are the numbers of species present in each forest, and w is the number of species common to both forests.

RESULTS

Size and composition of total forest flora

Number of taxa

Table 3 lists the number of families, genera and species, as well as the species/family and species/genus ratios for the vascular plants in each forest and for the total forest flora. The list of species (Appendix) represents 1 438 species, i.e. the bulk of species occurring in the southern African forests.

Twenty-six families each contain 1% (14) or more of the taxa (species, subspecies and varieties) of the total forest flora. These families are (number of species in brackets): Acanthaceae (45), Adiantaceae (21), Anacardiaceae (29), Apocynaceae (19), Asclepiadaceae (31), Aspleniaceae (24), Asteraceae (81), Capparaceae (14), Celastraceae (40), Convolvulaceae (15), Crassulaceae (20), Cyperaceae (35), Ebenaceae (19), Euphorbiaceae (67), Fabaceae (79), Flacourtiaceae (21), Lamiaceae (33), Liliaceae (42), Malvaceae (15), Moraceae (14), Oleaceae (17), Orchidaceae (53), Poaceae (57), Rubiaceae (66), Scrophulariaceae (19) and Vitaceae (14). These same families also represent 17% of all families present and include 55% of the genera and 62% of all forest species. Fifty-four percent of families have four or fewer species. Sixty-five families are represented by a single genus and 37 by a single species.

Only 15 genera contain 10 or more species. Of these, only *Streptocarpus* (12) (Gesneriaceae) does not belong to one of the largest families. The other genera are *Asplenium* (23), *Crassula* (18), *Cyperus* (11), *Diospyros* (12), *Ficus* (12), *Helichrysum* (10), *Isoglossa* (10), *Maytenus* (14), *Pavetta* (13), *Plectranthus* (18), *Protasparagus* (10), *Rhus* (21), *Senecio* (19) and *Vernonia* (10). Sixty-one percent of the genera are represented by a single species.

TABEL 2.—Rainfall and temperature data for forests included in this study. Data were obtained from the respective study reports or from published and unpublished sources for nearby stations

Forest*	Total annual rainfall mm	Percentage summer rain (October to March)	Mean daily temperature °C Max. & warmest month	Mean daily temperature °C Min. & coldest month
Pen	1 000–1 400	22.5	25 – January	9 – July
Gvb	1 070	56.8	29 – January	4 – July
Soc	500–1 200	54.9	26 – January	5 – July
Ama	750–1 500	70.5	23 – January	6 – June
Elc	745–1 025	63.8	26 – February	6 – July
Trm	800–1 340	78.6	25 – January	6 – June
Umt	1 220	71.4	26 – January	12 – July
Haw	1 000	66.2	28 – February	10 – June
Rib	1 110	62.4	28 – January	14 – June
Mlc	1 000	73.2	28 – January	14 – June
Cap	1 230–1 580	83.4	23 – December	5 – June
Sab	1 000–1 850	83.1	25 – December	3 – July
Mak	1 360	83.7	23 – January	4 – July
Net	1 000–2 090	84.8	24 – December	4 – June

* Ama, Amatole Mountains; Cap, Cathedral Peak; Elc, East London coast; Gvb, Grootvadersbosch; Haw, Hawaan; Mak, Mariepskop; Mlc, Maputaland coast; Net, northeastern Transvaal escarpment; Pen, Cape Peninsula; Rib, Richards Bay; Sab, Sabie transect; Soc, southern Cape; Trm, Transkei mountains; Umt, Umtamvuna Gorge.

TABEL 3.—Number of families, genera and species, and species/family and species/genus ratios for the different forests and the total forest flora

Forest*	Number of Families	Number of Genera	Number of Species	Ratio Species/family	Ratio Species/genus
Pen	52	79	103	2.0	1.3
Gvb	68	119	151	2.2	1.3
Soc	108	284	465	4.3	1.6
Ama	104	257	390	3.8	1.5
Elc	72	170	242	3.4	1.4
Trm	78	160	255	3.3	1.6
Umt	117	316	501	4.3	1.6
Haw	56	119	151	2.7	1.3
Rib	104	324	449	4.3	1.4
Mlc	79	213	338	4.3	1.6
Cap	76	140	176	2.3	1.3
Sab	102	254	366	3.6	1.4
Mak	101	254	373	3.7	1.5
Net	97	244	324	3.3	1.3
Total	155	661	1 438	9.3	2.2

* Ama, Amatole Mountains; Cap, Cathedral Peak; Elc, East London coast; Gvb, Grootvadersbosch; Haw, Hawaan; Mak, Mariepskop; Mlc, Maputaland coast; Net, northeastern Transvaal escarpment; Pen, Cape Peninsula; Rib, Richards Bay; Sab, Sabie transect; Soc, southern Cape; Trm, Transkei mountains; Umt, Umtamvuna Gorge.

Growth forms

The growth form spectra varied significantly between the different forests (Table 4; Chi-square value = 593.7, df = 143, $P<0.001$). Values with a particularly high Chi-square value for a particular cell are indicated in the table. None of the forests contain canopy trees, soft shrubs or geophytes in disproportionate numbers. The forests which contain species of a particular growth form in excess of the expected number are Maputaland (subcanopy trees and graminoids), Umtamvuna (woody shrubs), Hawaan (lianes), Transkei mountains and Cape Peninsula (erect ferns), Mariepskop (epiphytes) and the southern Cape (forbs). Growth forms in numbers less than the expected number occur in the southern Cape (subcanopy trees and lianes), Transkei mountains (vines, graminoids and forbs), Umtamvuna (graminoids), Richards Bay (erect ferns), Maputaland (all ferns and forbs) and northeastern Transvaal (woody shrubs).

Woody species constitute approximately 50% of the total flora in all forests but this percentage varies greatly between individual forests (Table 4). In general, coastal forests have a percentage of woody species in excess of 60%, whereas for montane forests the percentage varies between 39% and 53%. However, the Transkei mountain forests have a percentage of 68% and the Richards Bay coastal forests a percentage of 57%.

The geographical ranges of species are significantly related to their growth form (Chi-square value based on absolute frequencies = 246.7, df = 99, $P<0.001$). Cell

TABLE 4.—Number of species by growth forms for the different forests. The signs following some numbers indicate that the number is much higher (+) or lower (–) than the expected number under assumption of independence (Chi-square analysis)

Growth form	Forest*														Total
	Pen	Gvb	Soc	Ama	Elc	Trm	Umt	Haw	Rib	Mlc	Cap	Sab	Mar	Net	
Canopy trees	17	26	46	41	35	46	58	18	56	48	20	38	42	40	109
Subcanopy trees	15	20	40–	48	52	58	97	36	67	77+	17	59	60	41	191
Woody shrubs	9	18	58	63	48	56	135+	34	78	79	26	59	55	33–	276
Soft shrubs	4	7	27	20	9	1	13	3	12	4	8	13	16	14	58
Lianes	3	7	12–	16	12	13	35	22+	41	27	5	25	23	27	77
Vines	6	12	45	29	26	6–	28	10	46	32	15	28	32	40	122
Erect ferns	18+	11	35	23	6	29+	15	0	3–	1–	14	25	25	25	58
Creeping ferns	8	10	17	22	2	15	7	0	6	1–	12	15	21	15	38
Epiphytes	6	9	26	17	4	9	17	3	10	4	9	13	28+	24	58
Geophytes	3	5	28	21	4	11	18	2	21	6	9	10	11	11	75
Graminoids	6	9	33	23	13	3–	9–	9	38	34+	14	25	16	12	93
Forbs	8	17	98+	67	31	8–	69	14	70	25–	27	56	44	42	283
TOTAL															
Woody**	48	78	183	188	156	174	338	113	254	235	76	194	196	155	711
Herbaceous	55	73	282	202	86	81	163	38	194	103	100	172	177	169	727
All plants	103	151	465	390	242	255	501	151	448	338	176	366	373	324	1 438
% woody	47	52	39	48	64	68	67	75	57	70	43	53	53	48	49

* Ama, Amatole Mountains; Cap, Cathedral Peak; Elc, East London coast; Gvb, Grootvadersbosch; Haw, Hawaan; Mak, Mariepskop; Mlc, Maputaland coast; Net, northeastern Transvaal escarpment; Pen, Cape Peninsula; Rib, Richards Bay; Sab, Sabie transect; Soc, southern Cape; Trm, Transkei mountains; Umt, Umtamvuna Gorge.
** Woody species include trees, shrubs and lianes.

values which have made a large contribution to the significant Chi-square value are indicated in Table 5. Trees, lianes and ferns are well represented: 37% of canopy trees, 26% of subcanopy trees, 27% of lianes, 31% of erect ferns and 24% of creeping ferns occur in more than five of the forests. Fifteen per cent or less of the other growth forms occur in more than five forests. No species occurs in all forests but the species which occur in more than 10 forests (75%) are *Apodytes dimidiata, Calodendrum capense, Canthium inerme, Celtis africana, Clausena anisata, Cussonia spicata, Dietes iridioides, Ekebergia capensis, Galopina circaeoides, Grewia occidentalis, Halleria lucida, Ilex mitis, Maytenus heterophylla, Maytenus undata, Olea capensis* subsp. *macrocarpa, Oplismenus hirtellus, Pittosporum viridiflorum, Protasparagus setaceus, Psychotria capensis, Psydrax obovata, Rapanea melanophloeos, Rhoicissus tridentata, Scutia myrtina, Secamone alpinii* and *Zanthoxylum capense*.

Regression analyses

Size and species richness of the different forests vary greatly (Tables 1 & 3). The number of species of both woody and herbaceous plants shows a significant log

TABLE 5.—The frequency of occurrence of species of different growth forms in 14 widely separated forests of southern Africa

No. of forests	Growth form*												All growth forms	
	1	2	3	4	5	6	7	8	9	10	11	12		
	Frequency for species: Relative ← → Absolute													
1	14–	30	43	40	31	39	21	16	26	48	39	54+	38	542
2	18	18	19	24	17	21	16	11	24	24	26	23	20	294
3	15	15	13	14	16	10	14	24	26	17	13	9	14	195
4	9	8	6	9	8	8	10	21+	3	5	6	5	7	103
5	6	5	7	3	3	8	7	5	5	1	5	4	5	75
6	8	7	4	3	14+	4	17+	11	3	0	5	2	5	78
7	6	6	3	2	3	4	7	5	5	1	1	1	3	50
8	5	6+	2	2	3	2	3	0	3	0	1	1	2	34
9	4	2	1	2	3	2	3	0	2	0	1	0	1	20
10	5	2	0	2	1	2	2	8	2	1	1	1	2	22
11	5 +	1	0	0	0	1	0	0	0	1	1	0	1	13
12	2	1	0	0	3	0	0	0	0	0	0	0	0	6
13	2	1	1	0	0	0	0	0	0	0	0	0	0	6
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total species	109	191	276	58	77	122	58	38	58	75	93	283	1 438	

* 1, canopy trees; 2, subcanopy trees; 3, woody shrubs; 4, soft shrubs; 5, lianes; 6, vines; 7, erect ferns; 8, creeping ferns; 9, epiphytes; 10, geophytes; 11, graminoids; 12, forbs.

TABLE 6.—Constants and significance of the linear log-log models of the species-area relationships for the forests

Plant group	Woody	Herbaceous
Intercept	1.71514	1.47996
Slope	0.14573	0.18278
Error MS	0.03702	0.04084
F-ratio (12 df)	5.24493	7.47886
Probability level	0.04092	0.01811
Correlation coefficient	0.55149	0.61964

species-log area relationship (Table 6). However, this relationship explains only 30% and 38% respectively of the variation in the size of the floras. In both models a number of forests lie outside the 95% confidence intervals. The Umtamvuna, Richards Bay and Sabie forests have many more plants of both categories, whereas the Peninsula, Grootvadersbosch and Cathedral Peak forests have far fewer woody species, and the Transkei mountain, East London coast, Hawaan and Maputaland coast forests have much fewer herbaceous species than the number predicted by the linear log species-log area regression model.

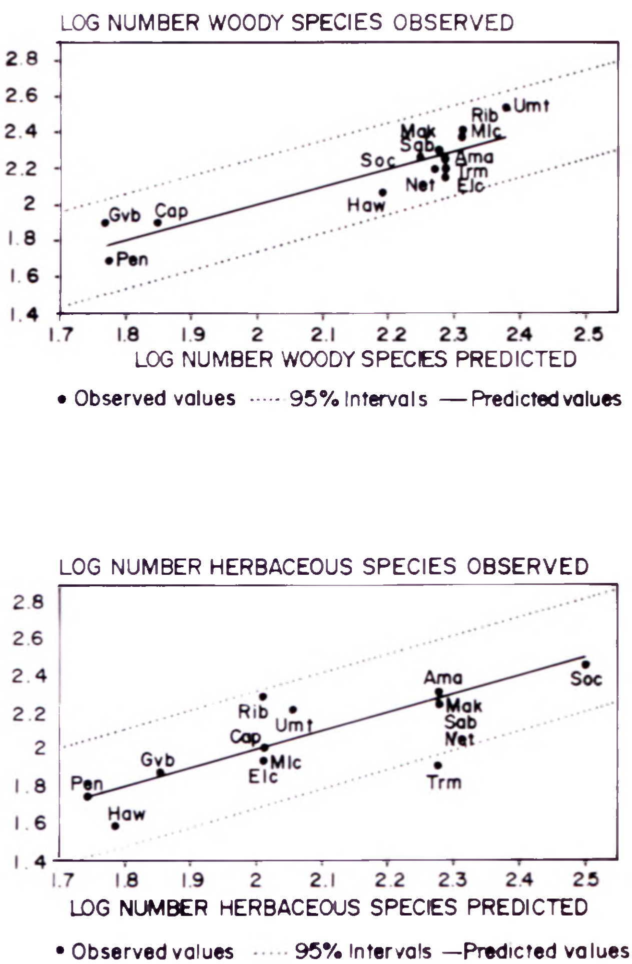

FIGURE 2.—Observed and predicted values, and 95% confidence intervals in relation to predicted values for the number of woody and herbaceous plants in a forest. The coefficients for the multiple regression equations are presented in Table 7. The study areas are indicated as follows: Ama, Amatole Mountains; Cap, Cathedral Peak; Elc, East London coast; Gvb, Grootvadersbosch; Haw, Hawaan; Mak, Mariepskop; Mlc, Maputaland coast; Net, northeastern Transvaal escarpment; Pen, Cape Peninsula; Rib, Richards Bay; Sab, Sabie transect; Soc, southern Cape; Trm, Transkei mountains; Umt, Umtamvuna Gorge.

In the multiple regression analysis for woody plants, proximity to other forests, the number of dispersal corridors and mean altitude explained 81.6% of the variation in the observed values (Table 7). The use of fewer or more variables in the model caused a reduction in the coefficient of determination (R^2). The number of landscape types and dispersal corridors explained 75.1% of the observed variation in the number of herbaceous plants (Table 7). Data for the Transkei mountain forests were excluded from this analysis because Cawe (1986) undersampled herbaceous plants other than ferns. All observed values, except those for herbaceous species in the Transkei mountain forests, fall within the 95% confidence intervals around the values predicted by the multiple regression model (Figure 2).

Shared and unique taxa and percentage similarity

Shared species

Shared taxa show at least three distinct patterns (Table 8). Firstly, forests share many more of their species with forests to their north and east than they share with forests to their south and west. This indicates an erosion of species from the two tropical source areas, i.e. the Transvaal and Maputaland forests, to the southwestern Cape forests. Secondly, forests share many more species with their nearest neighbours than with forests further away. Note that the forests to the south share more species with the Mariepskop forest than with either the Sabie or the northeastern Transvaal forests. Thirdly, the Afromontane forests, i.e. including forests from the southern to western Cape, share relatively fewer species with the forests of the coastal areas. The Umtamvuna and Transkei mountain forests, however, share relatively many species with both the coastal and montane areas.

Unique species

A large proportion of the species are unique to individual forests: 33% of the woody and 42% of the herbaceous species (Table 9). Canopy trees and ferns have the lowest proportions of unique species, whereas these proportions are ≥40% for the shrubs, geophytes and forbs (Table 5). Umtamvuna (20%), southern Cape (16%), Richards Bay (13%), Maputaland coast (13%) and the Sabie transect (12%) together contributed 74% of the unique species, and were the most important contributors to the unique species of each growth form. The Mariepskop and northeastern Transvaal escarpment forests contain relatively many unique soft shrubs and epiphytes.

Percentage similarity

The mean percentage similarity between any two forests is 34.4% for woody plants and 23.7% for herbaceous plants (Table 10). The individual forests differ widely in the number of forests and in the particular forests with which they share a similarity higher than the mean for the particular plant group.

DISCUSSION

Before the results are discussed, it is necessary to note that some components of the flora, in particular some

TABLE 7.—Analysis of variance for the significant regression variables in the order in which they were fitted, and estimates of the regression coefficients

Source	df	Mean square	P-value	Coefficient	SE	P-value
(i) **Woody plants**						
Constant				2.289104	0.1862	0.0000
Mean altitude	1	0.0185411	0.1979	− 0.131281	0.0575	0.0456
Corridors	1	0.5281966	0.0000	0.172275	0.0728	0.0394
Proximity	1	0.0450090	0.0572	− 0.123031	0.0573	0.0572
Error	10	0.0097458				
Model	3	0.1972489	0.0001			
R^2 (adjusted for df) = 0.81617			SE of estimate = 0.0987209			
(ii) **Herbaceous plants** (excluding data for Transkei mountains)						
Constant				1.361557	0.1242	0.0000
Landscapes	1	0.4923280	0.0002	0.112245	0.0352	0.0097
Corridors	1	0.1154728	0.0226	0.155882	0.0579	0.0226
Error	10	0.0159350				
Model	2	0.3039004	0.0004			
R^2 (adjusted for df) = 0.75074			SE of estimate = 0.126234			

TABLE 8.—The percentage shared taxa for the 14 forests. The upper triangle gives the values for the woody plants and the lower triangle the values for the herbaceous plants. In each cell of two values in the triangles, the upper value indicates the percentage of the species of the forest of that row which is shared with the forest of that column. The bottom value of the cell shows the reverse relationship

	Forest*													
	Pen	Gvb	Soc	Ama	Elc	Trm	Umt	Haw	Rib	Mlc	Cap	Sab	Mak	Net
	% species shared between forests													Woody species
Pen		75 46	85 22	69 18	31 10	56 16	54 8	15 6	27 5	33 9	46 29	38 9	52 13	38 12
Gvb	45 60		95 40	74 31	46 23	67 30	62 14	15 11	35 11	37 12	44 45	38 15	54 21	46 23
Soc	17 87	24 92		63 61	45 53	49 51	56 30	15 25	33 24	29 23	26 63	32 30	43 40	37 43
Ama	15 56	26 73	67 48		46 56	63 68	65 36	18 30	41 30	35 28	31 78	39 38	48 46	43 52
Elc	19 29	28 33	58 18	59 25		49 44	66 30	30 42	51 30	54 36	14 29	25 20	35 28	28 28
Trm	20 29	25 27	53 15	64 26	25 23		71 37	24 37	47 32	40 30	30 68	43 39	48 43	45 50
Umt	8 24	13 30	43 25	39 32	17 31	15 31		22 65	42 56	34 49	12 55	30 53	36 61	29 64
Haw	0 0	3 1	18 2	29 5	24 10	8 4	26 6		78 35	72 34	7 11	28 16	28 16	23 17
Rib	3 11	8 22	25 17	26 25	15 35	7 16	25 29	12 61		56 60	10 34	33 44	33 43	29 47
Mlc	4 7	6 8	19 7	20 10	15 17	2 2	17 10	17 47	75 40		10 30	26 31	26 32	22 33
Cap	13 24	30 41	47 17	58 29	17 20	36 44	27 17	0 0	26 13	9 9		54 21	59 23	51 25
	8 25	15 36	34 21	38 32	13 26	23 49	26 27	5 21	29 26	14 23	24 42		58 57	49 62
Mak	16 51	24 58	50 32	49 43	16 34	21 47	30 33	5 21	24 22	12 20	27 47	42 43		60 76
Net	10 31	20 45	47 28	50 42	16 31	22 47	29 30	5 21	26 23	9 16	29 49	43 42	58 55	
	Herbaceous species													

* Ama, Amatole Mountains; Cap, Cathedral Peak; Elc, East London coast; Gvb, Grootvadersbosch; Haw, Hawaan; Mak, Mariepskop; Mlc, Maputaland coast; Net, northeastern Transvaal escarpment; Pen, Cape Peninsula; Rib, Richards Bay; Sab, Sabie transect; Soc, southern Cape; Trm, Transkei mountains; Umt, Umtamvuna Gorge.

TABLE 9.—The number of unique species over growth forms, and the unique species as a percentage of all plants, for each forest

Forest*	Growth form⁺												% of flora	
	1	2	3	4	5	6	7/8	9	10	11	12	Total	Woody	Herbs
Pen	-	3	2	-	-	-	1	-	1	1	1	9	10	7
Gvb	-	-	-	-	-	-	-	-	-	-	4	4	-	5
Soc	2	2	11	5	-	8	2	4	10	10	35	89	11	24
Ama	-	-	2	-	1	-	1	1	2	1	1	9	2	3
Elc	-	2	3	2	-	4	-	-	-	2	10	23	4	19
Trm	-	2	2	-	-	-	1	-	-	-	1	6	2	4
Umt	-	19	43	2	4	3	3	2	6	-	25	107	21	24
Haw	1	1	-	-	1	1	-	-	-	1	6	11	3	21
Rib	6	4	8	2	8	10	3	-	7	2	19	69	11	21
Mlc	5	11	27	-	4	4	1	-	3	8	6	69	20	21
Cap	-	-	1	2	-	-	1	-	2	2	9	17	4	14
Sab	1	8	11	3	4	7	4	1	1	7	21	68	17	29
Mak	-	6	5	4	1	4	1	3	3	-	10	37	8	12
Net	-	-	3	3	1	6	-	4	1	1	5	24	5	10
Total	15	58	118	23	24	47	18	15	36	35	153	542	33	42

* Ama, Amatole Mountains; Cap, Cathedral Peak; Elc, East London coast; Gvb, Grootvadersbosch; Haw, Hawaan; Mak, Mariepskop; Mlc, Maputaland coast. Net, northeastern Transvaal escarpment; Pen, Cape Peninsula; Rib, Richards Bay; Sab, Sabie transect; Soc, southern Cape; Trm, Transkei mountains; Umt, Umtamvuna Gorge.

⁺ 1, canopy trees; 2, subcanopy trees; 3, woody shrubs; 4, soft shrubs; 5, lianes; 6, vines; 7, erect ferns; 8, creeping ferns; 9, epiphytes; 10, geophytes; 11, graminoids; 12, forbs.

herbaceous growth forms, may have been undersampled. This is understandable in studies of forests because attention is invariably focused on the trees and conspicuous understorey plants. Firstly, this occurred in the Transkei mountain forest data where Cawe (1986) was concerned with the timber resource potential but also sampled the conspicuous fern understorey as a possible indicator of site productivity. This undersampling of herbaceous species in Transkei was considered in the regression analyses for herbaceous species, and explains the deviations of the Transkei herbaceous data from the observed general trends (see Tables 4, 8, 10). Secondly, several species, especially herbaceous plants, tend to exhibit a disjunct distribution, being absent in a given forest but present in neighbouring ones. This may reflect inadequate collection of inconspicuous and rare plants. The recently published species list for the Amatole forests (Phillipson 1987) lacked several species which by that time had been collected from the eastern parts of the forests (C.J. Geldenhuys unpubl. data). By contrast, the lists may also reflect the inclusion of species which are usually associated with other biomes (such as grasses, shrubs and pioneer trees) but which are contained in particular development stages of some forests. Finally, the lists may merely reflect the true distribution pattern of some species. More detailed studies may clarify this and the Appendix is included to assist in this clarification.

Flora size and relationships

The evergreen forests in southern Africa cover only 0.08% of the area and contain only 7.1% of the indigenous vascular species, and thus have a relatively rich 0.58 species/km^2, making it the second richest biome per unit area in southern Africa. The overall ratio for southern Africa with over 20 227 indigenous vascular taxa is 0.0079

TABLE 10.—Percentage Czekanowski similarity of the woody and herbaceous components of the floras of the 14 forests. The upper triangle gives the values for the woody plants (trees, shrubs and lianes) and the lower triangle the values for the herbaceous plants

	Forest*													
	Pen	Gvb	Soc	Ama	Elc	Trm	Umt	Haw	Rib	Mlc	Cap	Sab	Mak	Net
Pen	-	57	35	28	15	24	13	9	9	11	35	15	20	18
Gvb	52	-	57	44	31	41	23	13	16	19	44	22	31	31
Soc	28	38	-	62	48	50	39	19	28	25	37	31	41	40
Ama	24	39	56	-	51	65	46	23	35	31	45	38	47	47
Elc	23	30	27	35	-	47	42	35	39	43	19	22	31	28
Trm	24	26	24	37	24	-	48	29	38	34	42	41	45	47
Umt	12	19	31	35	22	20	-	33	48	40	20	38	45	40
Haw	0	2	4	9	15	5	10	-	48	47	8	21	21	19
Rib	5	12	20	26	21	9	27	20	-	58	16	38	38	36
Mlc	5	7	10	14	16	2	13	26	52	-	15	28	29	26
Cap	17	35	25	38	18	40	21	0	18	9	-	30	33	34
Sab	12	21	26	35	17	32	26	8	27	17	31	-	57	55
Mak	24	34	39	46	22	29	31	7	23	15	34	42	-	67
Net	15	27	35	45	21	30	30	8	24	12	36	42	57	-

* Ama, Amatole Mountains; Cap, Cathedral Peak; Elc, East London coast; Gvb, Grootvadersbosch; Haw, Hawaan; Mak, Mariepskop; Mlc, Maputaland coast; Net, northeastern Transvaal escarpment; Pen, Cape Peninsula; Rib, Richards Bay; Sab, Sabie transect; Soc, southern Cape; Trm, Transkei mountains; Umt, Umtamvuna Gorge.

plant species/km^2 (Gibbs Russell 1985). Fynbos has 1.36 species/km^2 with a total of 7 316 species, and grassland has 0.25 species/km^2 with 3 788 species (Gibbs Russell 1987).

Sixteen of the largest families of the forest flora are included amongst the 38 largest flowering plant families listed by Gibbs Russell (1985). The other large forest families are Adiantaceae, Apocynaceae, Aspleniaceae, Capparaceae, Celastraceae, Ebenaceae, Flacourtiaceae, Moraceae, Oleaceae and Vitaceae. Of these latter families only Capparaceae is indicated by Gibbs Russell (1987) as a characteristic family of any other biome, i.e. the desert biome. However, most families listed by Gibbs Russell (1987) as characteristic of other biomes occur in the forest list. Notable absences are two large families listed by Gibbs Russell (1985), namely Restionaceae and Chenopodiaceae, which respectively partly distinguish fynbos and desert (Gibbs Russell 1987).

Gibbs Russell (1985) suggested that families with a species/genus ratio more than twice the overall ratio of 9.6 for southern African seed plants have diversified extensively within southern Africa. The species/genus ratio for the total forest flora is only 2.2 with the ratio for the individual forests ranging between 1.3 and 1.6 (Table 3). Forty-nine of the families have a species/genus ratio greater than 2.2 (Appendix). The families with a species/genus ratio of more than 4.4, i.e. twice the overall mean, are Aspleniaceae (12.0), Crassulaceae (6.7), Dioscoreaceae (6.0), Ebenaceae (9.5), Gesneriaceae (12.0), Lycopodiaceae (6.0), Moraceae (4.7), Ochnaceae (7.0), Polygalaceae (9.0), Solanaceae (5.0) and Thelypteridaceae (4.5). The high ratio of these families can be attributed to a single genus with many species. They are mostly forest understorey or subcanopy plants.

Size of individual forest floras

Species-area relationships

Forest size determines the richness of the flora but only in simple linear regression and explains 30% to 38% of the observed variation in species richness. It explains the rich southern Cape forest flora despite its extreme southern location at the western end of the larger forests of southern Africa (see Anon. 1987). However, size does not explain the rich floras of the small Umtamvuna, Richards Bay and Sabie forests. In the multiple regression analyses, forest size was an insignificant variable, whereas variables which explain dispersal patterns and habitat diversity (proximity to other forests, the number of dispersal corridors and landscape types, and mean altitude) explained 75% to 82% of the variation in species richness.

Number of dispersal corridors

The number of dispersal corridors meeting in a particular forest is one of the strongest variables determining the number of woody plants in a forest (Table 7). A dispersal corridor provides environments which are similar to the two source areas at either end of it, or it is a broad band of similar habitat (Brown & Gibson 1983). Mountain chains (Transkei and Amatole Mountains), escarpments (Natal and Transvaal Drakensberg), river valleys (Tugela River, Edwards 1967) and coastal dune systems (Zululand and eastern Cape) link forests into larger complexes and link forest complexes on either side of dry, open valleys and lowlands (see Anon. 1987). The most prominent dry zone stretches from the Transvaal lowveld to the eastern Cape between the southwest-northeast mountain chains and escarpment, and the Indian Ocean coast (Zucchini & Adamson 1984).

Each type of corridor provides a different set of environmental conditions and provides for a specific direction of dispersal for the plants.

The Tugela River basin is a good example of a corridor which allows coastal and montane species to mix along the rivers and escarpments, at a distance from both sources, for example in the Qudeni, Nkandhla and Ngoye forests on the eastern margin of the Tugela River basin (Edwards 1967; Anon. 1987). This explains in part the high degree of similarity between the small Sabie and Richards Bay forests and the higher degree of similarity of the Transvaal escarpment forests to the Richards Bay forest rather than to the other two Natal north coast forests (Table 10). But coastal and montane forest species cannot establish themselves in the area between the rivers due to unfavourable climatic conditions (drought and frosts) and the frequent occurrence of fires.

The corridor provided by the Drakensberg escarpment explains the high similarity amongst the Transvaal forests, and between these and those occurring on the Transkei and Amatole Mountains (Table 10). The Transvaal escarpment provides sites with very uniform climate over several degrees of latitude, and which protect the forest against the frequent grassland fires such as the Wonderwoud near Tzaneen. This escarpment is also part of the chain of mountains which extend more or less uninterrupted as far south as the Amatole forests.

Mountain ranges and dune systems provide for large habitat diversity through climatic (altitudinal range and different slopes and exposures), edaphic and disturbance gradients (Van der Schijff & Schoonraad 1971; Scheepers 1978; Deall 1985; Burns 1986; Geldenhuys 1989). The diversity of habitats allows species to migrate within the system during conditions of environmental change (Scheepers 1978). Mountain ranges also allow forests to persist within larger areas of totally different, extreme climatic and disturbance regimes such as the Karoo and Fynbos (Anon. 1987; Geldenhuys 1985, 1989).

Both the number of corridor types present in a forest and the proximity of the forest to other forests contribute significantly to the number of woody species in that forest (Table 7). This concept is demonstrated in the rich woody flora of the small Umtamvuna gorge forest. It exists in a central position between the coastal and mountain forests of the eastern Cape, Transkei and Natal. It is linked to those different types of forests by different types of corridors which allow an interchange of species between forests along the coast, and on mountain ranges and the Drakensberg escarpment. This is shown by the high similarity between the Umtamvuna and the other mentioned forests. The gorge is relatively deep, and therefore protected from fires, but at the same time it is unobstructed, which allows coastal elements to migrate inland and mountain elements to migrate towards the coast.

Proximity between forests

The greater floristic similarity between forests of the larger complexes which occur in relatively close proximity is attributed to the similarity of their environments. Examples are the close affinity between the Transvaal escarpment forests, between the Natal coastal forests and between the Amatole, Transkei and Umtamvuna forests (Table 10). The probability of successful establishment after chance events of long-distance dispersal (Brown & Gibson 1983) is increased if the forests in close proximity share similar environments. By contrast, the Natal coastal forests share much fewer species with the distant Drakensberg escarpment forests which is presumably due to great climatic and edaphic dissimilarity.

The smaller similarity between relatively isolated forests is attributed to the effective abiotic and biotic barriers to dispersal of propagules between them, and the lack of effective dispersal corridors. Firstly, the climate in the valleys and lowlands between adjacent forest complexes (Muir 1929; Edwards 1967; Cowling 1984; Everard 1987), the more extreme fire regimes of adjacent woodlands, grasslands and fynbos (Granger 1984; Edwards 1984), and the exposed mountain peaks and ridges (Killick 1963; Geldenhuys 1989) are barriers to the successful dispersal of forest biota. Van Daalen (1981) noted the inability of forest species to establish in fynbos. Secondly, the Peninsula, Grootvadersbosch, southern Cape, Hawaan and Cathedral Peak forests occur isolated from most other forests and are linked with them by few and ineffective corridors.

The Peninsula, Grootvadersbosch and Cathedral Peak forests have high similarities only with their nearest neighbours, and share mostly the widespread species.

The Peninsula forests are presently very isolated from the main western Cape mountain ranges. However, their species richness is higher than that of the forests of those mountains (for example McKenzie 1978). They share several species with forests along the coast to the east (Masson & McKenzie 1989) which makes a coastal corridor very likely.

Grootvadersbosch is very isolated from other forests, even the southern Cape forests. The links between Grootvadersbosch and the coast are poor and cross relatively dry country (Muir 1929).

Cathedral Peak forests are isolated from the rest of the Drakensberg escarpment forests. They have very poor links with the Natal midlands and coastal forests. They are surrounded by extensive grasslands which burn frequently (Edwards 1984; Tainton & Mentis 1984; Everard 1986).

Hawaan forest shares several species with smaller forests in the vicinity such as Steinbank and Krantzkloof (coastal scarp), and Karkloof (Natal midlands) although it is most similar to the Hlogwene dune forest (Rogers & Moll 1975; Moll 1978).

The southern Cape forest is large, covers several landscape types and is linked with the forests to the east mainly through the discontinuous mountain ranges and along the coast. The rivers provide only local links with the inland mountains which have very small, isolated forests (Geldenhuys 1989).

Altidude

Mean altitude improved the coefficient of determination of the number of woody plants in the multiple regression model, but was an insignificant variable in linear regression (Table 7). Its negative coefficient emphasizes the higher richness of coastal forests compared to the mountain forests. This was also shown by Geldenhuys & MacDevette (1989) for both the southern Cape and Natal. I attribute its insignificance in linear regression to the wide altitudinal range of many forests along the eastern escarpment and mountains.

Number of landscape types

The number of landscape types in a forest is the most significant variable determining the number of herbaceous species (Table 7). Different landscape types provide different combinations of slopes, aspects, soil depths, soil nutrient and moisture status, and different disturbance regimes (Scheepers 1978; Deall 1985; Geldenhuys 1989). Each landscape type carries a subset of unique species with narrower habitat tolerances. Geldenhuys & MacDevette (1989) have shown that different herbaceous growth forms show different habitat preferences along gradients from the coast to the mountain, both in Natal and the southern Cape. This is particularly evident in the southern Cape, Amatole, and Transvaal escarpment forests which include the largest number of landscape types (Table 1) and which have many species in most of the herbaceous growth forms (Table 4).

Habitat requirements and distribution of species

Physiological tolerances of species to climatic conditions are reflected in the growth form spectra of different forests (Table 4) and the distribution ranges of species of different growth forms. This would also contribute to the observed variation in the richness of the floras of different forests. The southern African forest environment is characterized by relatively steep climatic gradients (Killick 1963; Venter 1972; Scheepers 1978; Campbell & Moll 1977; McKenzie 1978; Deall 1985; Burns 1986). Mountains are cool to cold and the coastal areas warm to hot. The northeastern parts are subtropical-tropical with summer rain, and the southwestern parts almost cool temperate with winter rain. The mountains and coast receive high rainfall with relatively dry areas in-between.

Growth form spectra indicate that cooler mountain forests have a larger proportion of herbaceous plants whereas the warm, humid coastal forests have a larger proportion of woody plants (Table 4; Geldenhuys & MacDevette 1989). Coastal forests are particularly rich in trees, woody shrubs, lianes and vines. Mountain forests are particularly rich in ferns, which are far less common in the coastal forests, and are deficient in climbers except in the lower-lying (drier and/or warmer) parts. Fern and bryophyte epiphytes are generally associated with mountain forests and mistbelts (Pócs 1982) and epiphytic orchids with tropical lowlands (Harrison 1972). Mountain forests generally contain many epiphytes (e.g. Scheepers 1978).

Notable exceptions are the Peninsula, Grootvadersbosch, Transkei (where they were not collected) and Cathedral Peak forests. In the southern Cape epiphytes are abundant and represented by numerous species. This feature is most pronounced in the large, less frequently disturbed forests (by fire) of the coastal platform and river valleys, rather than in the small, more frequently disturbed mountain forests (Geldenhuys & MacDevette 1989). More frequent disturbance by fire could explain, in part, the lack of epiphytes in the smaller mountain forests of this study. Protection from fire could explain the high species richness in the larger montane forests of the Transvaal escarpment and in the well-protected but small Umtamvuna forests.

Many species drop out along the tropical-temperate gradient (Table 8). This southward attenuation of species was noted in several studies (Phillips 1931; McKenzie 1978; Moll & White 1978; Scheepers 1978; Tinley 1985; Cawe 1986; MacDevette 1987; Geldenhuys 1989). The high number of unique trees and shrubs of the Maputaland dune forests has been related to the deterioration of the tropical climate to the south (Table 9; Moll & White 1978; Tinley 1985). Further south, I have related the sharp decline in numbers of species from the southern Cape to the Cape Peninsula to the increasing aridity, fire frequency and forest fragmentation since the Pliocene (Geldenhuys 1989).

Steep gradients imply that the widespread species have wide habitat tolerances, and that the restricted species have narrower tolerances. Tree species have much wider ranges than shrubs, and ferns have much wider ranges than the other herbaceous growth forms (Table 5). However, only 7% of all species occur in eight or more forests, and no species occur in all forests.

Interaction with adjacent vegetation types

The climatic and disturbance regimes and structure of surrounding vegetation types will determine the interaction of the forest with those vegetation types. This interaction can increase the number of species in the forest in several ways:

Forest margin in close contact with disturbance regimes of adjacent vegetation types

Small forests have a large ratio of forest margin to forest area. As such they may contain proportionately more species which are usually associated with adjacent vegetation types but which appear in forest communities during the successional stages. The Richards Bay and Sabie forest communities in particular contained shrub, graminoid and forb species which were common in communities other than forest. These forests occurred in complex mosaics with other vegetation communities (Venter 1972; Deall 1985). This partly explains the high species richness of these two forests in relation to their small size (Figure 2). The inclusion of many ecotonal species in the forest floras of Sabie, Richards Bay and the southern Cape could also explain the high number of unique species of several different growth forms of these forests (Table 8). In contrast, Hawaan forest is well protected and mature but surrounded by cultivated land (Moll 1969; Cooper 1985). It therefore lacks an ecotone and this could, at least in part, explain its low number of herbaceous species. Everard (1986) also pointed to the negative effect on species richness of a forest if the forest ecotone is frequently destroyed by fire.

Vegetation types with structure and disturbance regimes somewhat similar to forest

Subtropical transitional thicket in the eastern Cape (Cowling 1984; Everard 1987), similar types in Natal (Edwards 1967) and moist savanna (Huntley 1984) of the Transvaal (Van der Schijff & Schoonraad 1971; Scheepers 1978; Deall 1985) and Natal (Edwards 1967) share various proportions of forest taxa. As such they provide corridors for the dispersal of forest species across the barriers (Edwards 1967; Moll & White 1978; Cowling 1984; Everard 1987). Current land use practices, such as intensive agriculture in the eastern Cape and Natal, remove this corridor and may intensify the isolation of the forests. However, plantation forestry and the associated reduction of fire and amelioration of the microclimate provide corridors for plant species migration (Geldenhuys *et al.* 1986; Knight *et al.* 1987).

Environmental change

The present patterns of composition and interrelationships of the different forests suggest that their high degree of similarity may have been established before major fragmentation of the forests occurred. For example, the southern Cape forests are relatively similar to the Amatole, Transkei and Transvaal forests. Yet they are linked with the forests to the east by broken mountain ranges which are separated by relatively dry wide open valleys and extensive lowlands. One particularly prominent gap in forest distribution is formed by the Sundays River valley east of Port Elizabeth (Figure 1). It stretches in a northwesterly direction towards remnants of the escarpment of the African Surface in the vicinity of Graaff-Reinet in the arid interior. East of this valley a massive uplift occurred during late Pliocene ($\pm$ 2.5 million years ago) along the Ciskei-Swaziland axis, whereas west of the valley the uplift was of lesser magnitude. This resulted in significant rejuvenation along the major inland drainage lines which are evident in the high accumulation rates of sediment at the mouths of major rivers along the southeastern coast (Partridge & Maud 1987).

I suggest that the forests in the southern Cape became isolated from the forests along the escarpment to the east of the Sundays River valley by the late Pliocene. The maps of Partridge & Maud (1987) suggest that the Sundays River was already extensive by the Miocene but indications are that aridity increased rapidly towards the Pliocene-Pleistocene (Deacon 1983). The relatively dry Suurberg forests immediately to the east of the Sundays River valley are the closest forests to the southern Cape (Geldenhuys 1985). The only connections between the southern Cape forests and those to the east would have been along the coast and by means of the subtropical transitional thicket.

The increasing aridity which followed the Pliocene (Deacon 1983) increasingly fragmented the forests. Forests were probably most limited during the last cold, dry Glacial Maximum of 18 000 years ago (Deacon *et al.* 1983; Scholtz 1986). Acocks (1988) and White (1983) attributed the relic nature of the forests within the grassland and fynbos biomes to the destructive activities of man during the relatively recent 100 to 300 years. However, Feely (1980, 1986) indicated that most of the present southern African grassland existed throughout the Holocene and was not induced by recent forest clearing. Forests still persist today in areas where Iron Age farmers in Transkei settled in high density for at least the last 1 400 years. I have indicated that fires associated with hot, desiccating winds have confined forests to shadow areas of fire-bearing winds (Geldenhuys 1989) whereas others (Story 1952; McKenzie 1978; Scheepers 1978; Deacon *et al.* 1983) have also commented on the role of fire.

During this long period of forest fragmentation, forests and forest biota survived in areas which we now consider as dispersal corridors. I suggest that the forest species responded in different ways to the increasing pressures of drought and fire. Some species survived in the specific landscape types because of better availability of moisture and protection against fires. Outside of these sites many species were eliminated due to pressures from droughts and fires. Species with wider climatic tolerances persisted with a wide distribution range and with the adoption of a range of sizes and shapes. The pressures of drought and fire caused many other species to evolve into smaller growth forms. This view is supported by two findings of this study. Firstly, forests in closer proximity share more species than forests further apart. Dispersal may play a role, but I suggest that this role is of lesser significance. Secondly, most of the large families, and many of the other important families and genera are shared between the forest and the other vegetation types. Their species/family ratios are small in the forest compared to the large ratios outside the forest. They have few but widespread species in the forest, and many but relatively localized species in the surrounding vegetation types. Species with the taller, longer-living growth forms occur in the forest, whereas the smaller and often herbaceous growth forms occur in the vegetation types which are exposed to more extreme environmental conditions.

CONCLUSION

I suggest that fragmentation of the forests and an increase in vegetation types which are tolerant of frequent fires and/or droughts had a profound effect on the speciation of the southern African flora. Most of the large plant families, and many of the other important families, are shared between the forest and the other vegetation types. This sharing suggests that forest might have been the original gene source for the speciation of many of the families and genera. Examples are the Anacardiaceae, especially *Rhus*, Asteraceae, Liliaceae, Orchidaceae, Proteaceae and Rosaceae. This effect of increasing aridity and disturbance on the radiation of species beyond forests should be considered in studies of the phylogenies of many of the groups.

I have indicated that a variety of factors contributed to the variation in the size of the floras of individual forests. Forests where several positive factors operate have rich floras compared to the poorer floras of forests with fewer positive factors (Table 1). However, the significant variables do not explain the large number of both woody and herbaceous plants of the Umtamvuna forest, except perhaps the number of corridors. The Umtamvuna forest forms part of the southern Natal/Pondoland quartzite sandstone complex which is known to have a remarkably high number of endemic woody species (Van Wyk 1981). This whole complex requires a detailed study to determine the composition and distribution of different plant communities, and the distribution of the rare and endemic species. This would allow a more objective explanation of its high number of species in the relatively confined area.

The fragmentation had been aggravated by current land use practices, such as clearing for agriculture, forestry and subsistence utilization, and veld burning practices for grazing and improved water runoff in catchments (Phillips 1963; Feely 1980, 1986; Cooper 1985) and the development of coastal resorts and townships. I suggest that more localized studies should be conducted to determine the effect of these land use practices on the survival of species in different regions.

The suggestion of the isolation of the southern Cape forests from those to the east already by the Pliocene implies long isolation and stability of the forest species. Several well-defined ecotypes may exist in many of the taxa. Collection of seed of those species for planting in other parts of their range may have serious implications for the conservation of the ecotypes within those species.

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APPENDIX

LIST OF SPECIES RECORDED FOR 14 FORESTS OR FOREST COMPLEXES IN SOUTHERN AFRICA

This list was compiled from the sources given under study area and methods. The families, genera and species are listed alphabetically. The family name is followed by the number of genera, the number of species and the species/genus ratio for the family. The nomenclature of the species follows Schelpe & Anthony (1986) and Gibbs Russell *et al.* (1985, 1987).

The growth form (GF) symbols have the following meaning (after Geldenhuys *et al.* 1988): 1, canopy tree; 2, subcanopy tree; 3, woody shrub; 4, soft shrub; 5, liane; 6, vine; 7, fern with erect rhizome; 8, fern with creeping rhizome; 9, epiphyte; 10, geophyte; 11, graminoid; 12, forb.

Absolute frequency (Fre) of occurrence is indicated in the third column.

The forests included in this list are (with abbreviation as used in the heading of columns four to seventeen): Pen, Cape Peninsula; Gvb, Grootvadersbosch and Boosmansbos; Soc, southern Cape forest complex; Ama, Amatole forest complex; Elc, East London coast forest complex; Trm, Transkei mountain forest complex; Umt, Umtamvuna Nature Reserve; Haw, Hawaan forest; Rib, Richards Bay forest; Mlc, Maputaland coast forest complex; Cap, Cathedral Peak forest; Sab, Sabie transect forest complex; Mak, Mariepskop forest complex; Net, Northeastern Transvaal escarpment forest complex.

	GF	Fre	FOREST: Pen Gvb Soc Ama Elc Trm Umt Haw Rib Mlc Cap Sab Mak Net
ACANTHACEAE 15, 45, 3.0			
Asystasia gangetica *(L.) T. Anders.*	12	3	0 0 0 0 0 0 1 0 1 1 0 0 0 0
Asystasia varia *N.E. Br.*	12	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Barleria gueinzii *Sond.*	12	3	0 0 0 0 0 0 1 0 0 0 0 1 1 0
Barleria meyeriana *Nees*	12	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Barleria obtusa *Nees*	12	3	0 0 0 0 0 0 1 0 1 1 0 0 0 0
Barleria repens *Nees*	12	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Barleria rotundifolia *Oberm.*	12	1	0 0 0 0 0 0 0 0 0 0 0 0 1 0
Dicliptera clinopodia *Nees*	12	3	0 0 0 0 0 0 0 0 0 0 0 1 1 1
Dicliptera heterostegia *Presl ex Nees*	12	1	0 0 0 0 0 0 0 1 0 0 0 0 0 0
Dicliptera mossambicensis *Klotzsch*	12	1	0 0 0 0 0 0 0 1 0 0 0 0 0 0
Dicliptera zeylanica *Nees*	12	2	0 0 1 0 0 0 0 0 0 0 0 0 1 0
Duvernoia adhatodoides *E. Mey. ex Nees*	12	2	0 0 0 0 0 0 1 0 0 0 0 0 1 0
Hypoestes aristata *(Vahl) Soland. ex Roem. & Schult.*	12	7	0 0 1 0 1 0 1 0 1 0 0 1 1 1
Hypoestes forskaolii *(Vahl) R. Br.*	12	7	0 0 1 1 1 0 1 0 1 0 0 0 1 1
Hypoestes triflora *(Forssk.) Roem. & Schult.*	12	5	0 0 0 1 0 0 0 0 0 0 1 1 1 1
Isoglossa ciliata *(Nees) Lindau*	12	2	0 0 1 0 0 0 1 0 0 0 0 0 0 0
Isoglossa cooperi *C.B. Cl.*	12	4	0 0 0 1 1 0 1 0 0 0 0 0 0 1
Isoglossa delicatula *C.B. Cl.*	12	2	0 0 0 0 0 0 1 0 0 0 0 0 0 1
Isoglossa eckloniana *(Nees) Lindau*	12	4	0 0 1 1 0 0 0 0 0 0 1 1 0 0
Isoglossa grantii *C.B. Cl.*	12	2	0 0 1 0 0 0 0 0 1 0 0 0 0 0
Isoglossa hypoestiflora *Lindau*	12	2	0 0 1 0 0 0 1 0 0 0 0 0 0 0
Isoglossa prolixa *(Nees) Lindau*	12	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Isoglossa stipitata *C.B. Cl.*	12	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Isoglossa sylvatica *C.B. Cl.*	12	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Isoglossa woodii *C.B. Cl.*	4	3	0 0 0 0 1 0 0 0 1 1 0 0 0 0
Justicia anselliana *(Nees) T. Anders.*	12	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Justicia bowiei *C.B. Cl.*	12	1	0 0 0 0 1 0 0 0 0 0 0 0 0 0
Justicia campylostemon *(Nees) T. Anders.*	12	5	0 0 0 1 1 0 1 1 0 0 0 0 0 1
Justicia capensis *Thunb.*	12	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Justicia petiolaris *(Nees) T. Anders.*	12	2	0 0 0 1 0 0 0 0 0 0 0 0 1 0
Justicia protracta *(Nees) T. Anders.*	12	4	0 0 1 0 0 0 0 0 1 1 0 0 1 0
Makaya bella *Harv.*	3	3	0 0 0 0 0 0 1 0 0 0 0 0 1 1
Peristrophe cernua *Nees*	12	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Phaulopsis imbricata *(Forssk.) Sweet*	4	4	0 0 0 0 0 0 0 1 1 0 0 1 0 1
Rhinacanthus gracilis *Klotzsch*	12	2	0 0 0 0 0 0 1 0 1 0 0 0 0 0
Ruttya ovata *Harv.*	12	2	0 0 0 0 0 0 1 1 0 0 0 0 0 0
Sclerochiton harveyanus *Nees*	3	7	0 0 0 1 0 1 1 0 0 1 0 1 1 1
Sclerochiton odoratissimus *Hilliard*	3	1	0 0 0 1 0 0 0 0 0 0 0 0 0 0
Siphonoglossa leptantha *(Nees) Immelman*			
subsp. late-ovata (C.B. Cl.) Immelman	12	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
subsp. leptantha	12	2	0 0 1 0 0 0 1 0 0 0 0 0 0 0
Thunbergia alata *Sims*	6	4	0 0 0 0 0 0 0 0 1 1 0 0 1 1
Thunbergia dregeana *Nees*	6	6	0 0 1 1 1 0 1 1 0 1 0 0 0 0
Thunbergia natalensis *Hook.*	4	3	0 0 0 0 0 0 1 0 0 0 0 0 1 1
Thunbergia neglecta *Sond.*	6	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Thunbergia purpurata *Harv. ex C.B. Cl.*	6	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
ACHARIACEAE 2, 2, 1.0			
Acharia tragodes *Thunb.*	6	1	0 0 0 0 1 0 0 0 0 0 0 0 0 0
Ceratosicyos laevis *(Thunb.) A. Meeuse*	6	5	0 0 1 1 0 0 1 0 1 0 0 0 0 1
ADIANTACEAE 5, 21, 4.2			
Acrostichum aureum *L.*	8	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Adiantum aethiopicum *L.*	8	4	1 0 1 0 0 1 0 0 0 0 0 0 1 0
Adiantum capillus-veneris *L.*	8	4	0 0 1 1 0 0 0 0 0 0 0 1 1 0
Adiantum poiretii *Wikstr.*	8	4	0 0 0 1 0 0 0 0 0 0 1 0 1 1
Cheilanthes bergiana *Schlechtd.*	7	6	0 0 1 1 1 1 1 0 0 0 0 0 0 1
Cheilanthes capensis *(Thunb.) Swartz*	7	2	0 0 1 1 0 0 0 0 0 0 0 0 0 0
Cheilanthes concolor *(Langsd. & Fisch.) R. & A. Tryon*	7	6	0 0 1 1 1 1 1 0 0 0 0 1 0 0
Cheilanthes eckloniana *(Kunze) Mett.*	8	3	0 0 0 1 0 1 0 0 0 0 1 0 0 0
Cheilanthes hirta *Swartz*	7	7	0 0 1 1 0 1 0 0 0 0 1 1 1 1
Cheilanthes quadripinnata *(Forssk.) Kuhn*	8	4	0 0 0 1 0 1 0 0 0 0 1 0 1 0
Cheilanthes viridis *(Forssk.) Swartz*			
var. glauca *(Sim) Schelpe & N.C. Anthony*	8	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
var. macrophylla *(Kunze) Schelpe*	8	4	0 0 1 1 0 0 1 0 0 0 0 0 1 0
var. viridis	8	10	0 1 1 1 1 1 1 0 1 0 0 1 1 1
Pellaea calomelanos *(Swartz) Link*	7	2	0 0 0 0 0 0 0 0 0 0 1 1 0 0
Pellaea pectiniformis *Bak.*	7	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Pellaea pteroides *(L.) Prantl*	7	1	1 0 0 0 0 0 0 0 0 0 0 0 0 0
Pteris buchananii *Bak. ex Sim*	8	4	0 1 1 1 0 0 0 0 0 0 0 0 1 0
Pteris catoptera *Kunze*	8	5	0 0 0 0 0 1 0 0 0 0 1 1 1 1
Pteris cretica *L.*	8	7	0 1 1 1 0 1 0 0 0 0 1 1 0 1
Pteris dentata *Forssk.*	7	7	1 1 1 1 1 1 0 0 0 0 0 0 1 0
Pteris vittata *L.*	8	3	0 0 0 0 0 0 0 0 1 0 0 0 1 1
AIZOACEAE 3, 3, 1.0			
Limeum viscosum *(Gay) Fenzl*	12	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Pharnaceum thunbergii *Adamson*	12	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Tetragonia glauca *Fenzl*	12	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
AMARANTHACEAE 8, 8, 1.0			
Achyranthes aquatica *R. Br.*	12	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Achyropsis avicularis *(E. Mey. ex Moq.) Hook. f.*	12	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Amaranthus thunbergii *Moq.*	12	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Celosia trigyna *L.*	12	2	0 0 0 0 0 0 0 1 1 0 0 0 0 0
Cyathula cylindrica *Moq.*	12	3	0 0 0 0 0 0 1 0 0 0 0 1 0 1
Nelsia quadrangula *(Engl.) Schinz*	12	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Psilotrichum africanum *Oliv.*	12	2	0 0 0 0 0 0 0 1 1 0 0 0 0 0
Pupalia atropurpurea *Moq.*	12	6	0 0 1 1 1 0 0 0 1 1 0 1 0 0
AMARYLLIDACEAE 4, 10, 2.5			
Clivia caulescens *R.A. Dyer*	10	3	0 0 0 0 0 0 0 0 0 0 0 1 1 1
Clivia gardenii *Hook.*	10	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Clivia miniata *Regel*	10	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Cyrtanthus purpureus *(Ait.) Traub*	10	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Cyrtanthus sp.	10	2	0 0 0 1 0 1 0 0 0 0 0 0 0 0
Haemanthus albiflos *Jacq.*	10	4	0 0 1 1 0 0 1 0 1 0 0 0 0 0
Haemanthus sp.	10	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0

	GF	Fre	FOREST P G S A E T U H R M C S M N e v o m l r m a i l a a a e n b c a c m t w b c p b k t
Scadoxus membranaceus *(Bak.) Friis & Nordal*	10	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Scadoxus multiflorus *(Martyn) Raf.*	10	2	0 0 0 0 0 1 0 0 0 0 0 1 0 0
Scadoxus puniceus *(L.) Friis & Nordal*	10	7	0 0 1 1 0 0 1 1 1 0 0 0 1 1
ANACARDIACEAE 8, 29, 3.6			
Harpephyllum caffrum *Bern. ex Krauss*	1	6	0 0 0 1 1 1 1 0 1 0 0 0 0 1
Lannea discolor *(Sond.) Engl.*	2	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Laurophyllus capensis *Thunb.*	3	2	0 1 1 0 0 0 0 0 0 0 0 0 0 0
Loxostylis alata *Spreng. f. ex Reichb.*	1	2	0 0 1 0 0 0 1 0 0 0 0 0 0 0
Ozoroa obovata *(Oliv.) R. & A. Fernandes*	3	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Ozoroa paniculosa *(Sond.) R. & A. Fernandes*	3	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Protorhus longifolia *(Bernh.) Engl.*	1	9	0 0 0 1 1 1 1 1 1 0 0 1 1 1
Rhus chirindensis *Bak. f.*	1	10	0 1 1 1 1 1 1 0 1 0 0 1 1 1
Rhus crenata *Thunb.*	3	2	0 0 1 0 1 0 0 0 0 0 0 0 0 0
Rhus dentata *Thunb.*	3	6	0 0 0 1 0 1 1 0 1 0 1 1 0 0
Rhus excisa *Thunb.*	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Rhus fastigiata *Eckl. & Zeyh.*	3	2	0 0 0 1 0 0 1 0 0 0 0 0 0 0
Rhus glauca *Thunb.*	3	2	0 0 1 0 1 0 0 0 0 0 0 0 0 0
Rhus gueinzii *Sond.*	3	1	0 0 0 0 0 1 0 0 0 0 0 0 0 0
Rhus krebsiana *Presl ex Engl.*	3	2	0 0 0 1 0 1 0 0 0 0 0 0 0 0
Rhus longispina *Eckl. & Zeyh.*	3	2	0 0 1 0 1 0 0 0 0 0 0 0 0 0
Rhus lucida *L.*	2	7	1 1 1 0 0 1 1 0 0 0 1 0 1 0
Rhus natalensis *Bernh. ex Krauss*	3	4	0 0 0 0 1 1 1 1 1 1 0 0 0 0
Rhus nebulosa *Schonl.*	3	5	0 0 0 0 0 1 1 1 1 1 0 0 0 0
Rhus pentheri *Zahlbr.*	3	3	0 0 0 0 0 1 0 0 1 0 0 1 0 0
Rhus pyroides *Burch.*	3	6	0 0 0 1 1 1 0 0 0 0 0 1 1 1
Rhus refracta *Eckl. & Zeyh.*	3	2	0 0 1 0 1 0 0 0 0 0 0 0 0 0
Rhus rehmanniana *Engl.*	3	8	0 1 1 1 0 1 1 0 1 0 0 0 1 1
Rhus sp. nov.	3	2	0 0 0 0 0 0 1 0 0 0 0 0 1 0
Rhus tomentosa *L.*	3	2	1 1 0 0 0 0 0 0 0 1 1 0 0 0
Rhus transvaalensis *Engl.*	3	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Rhus tumulicola *S. Moore*	3	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Rhus undulata *Jacq.*	3	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Sclerocarya birrea *(A. Rich.) Hochst.*	1	3	0 0 0 0 0 0 0 0 1 1 0 1 0 0
ANNONACEAE 4, 4, 1.0			
Annona senegalensis *Pers.*	2	3	0 0 0 0 0 0 0 0 1 1 0 1 0 0
Artabotrys monteiroae *Oliv.*	5	2	0 0 0 0 0 0 0 1 1 0 0 0 0 0
Monanthotaxis caffra *(Sond.) Verdc.*	5	6	0 0 0 1 0 0 1 1 1 1 0 1 0 0
Uvaria caffra *E. Mey. ex Sond.*	5	4	0 0 0 0 0 0 1 1 1 1 0 0 0 0
APIACEAE 7, 10, 1.4			
Berula erecta *(Hudson) Cov.*	12	1	0 0 0 0 1 0 0 0 0 0 0 0 0 0
Centella asiatica *(L.) Urb.*	12	2	0 0 0 1 0 0 0 0 1 0 0 0 0 0
Centella eriantha *(Rich.) Drude*	12	3	0 1 1 1 0 0 0 0 0 0 0 0 0 0
Conium chaerophylloides *(Thunb.) Eckl. & Zeyh.*	12	1	0 0 0 0 0 0 0 0 0 0 1 0 0 0
Heteromorpha pubescens *Burtt Davy*	3	2	0 0 0 0 0 0 0 0 0 0 0 1 1 0
Heteromorpha trifoliata *(Wendl.) Eckl. & Zeyh.*	3	9	0 1 1 1 1 1 1 0 0 0 1 0 1 1
Peucedanum capense *(Thunb.) Sond.*	4	3	0 0 1 1 0 0 0 0 0 0 1 0 0 0
Peucedanum venosum *Burtt Davy*	4	1	0 0 0 0 0 0 0 0 0 0 0 0 0 1
Rhyticarpus difformis *(L.) Benth. & Hook.*	4	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Sanicula elata *Buch.-Ham.*	12	7	0 1 1 1 0 0 0 0 0 0 1 1 1 1
APOCYNACEAE 10, 19, 1.9			
Acokanthera oblongifolia *(Hochst.) Codd*	3	5	0 0 1 0 1 0 1 1 0 1 0 0 0 0
Acokanthera oppositifolia *(Lam.) Codd*	3	9	0 0 1 1 1 1 1 1 1 1 0 0 0 1
Acokanthera rotundata *(Codd) Kupicha*	3	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Carissa bispinosa *(L.) Desf. ex Brenan*			
var. acuminata *(E. Mey.) Codd*	3	10	0 0 1 1 1 0 1 1 1 1 0 1 1 1
var. bispinosa	3	6	0 1 0 1 0 1 1 0 0 1 1 0 0 0
Carissa edulis *Vahl*	3	2	0 0 0 0 0 0 0 0 0 0 0 0 1 1
Carissa macrocarpa *(Eckl.) A. DC.*	3	2	0 0 0 0 1 0 0 0 1 1 0 0 0 0
Carissa wyliei *N.E. Br.*	3	2	0 0 0 0 0 0 1 0 1 0 0 0 0 0
Ephippiocarpa orientalis *(S. Moore) Markg.*	3	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Gonioma kamassi *E. Mey.*	2	2	0 0 1 0 0 0 1 0 0 0 0 0 0 0
Landolphia capensis *Oliv.*	5	1	0 0 0 0 0 0 0 0 0 0 0 0 1 0
Landolphia kirkii *T.-Dyer*	5	2	0 0 0 0 0 0 0 1 1 0 0 0 0 0
Landolphia petersiana *(Klotsch) T.-Dyer*	5	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Oncinotis inandensis *Wood & Evans*	5	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Rauvolfia caffra *Sond.*	1	4	0 0 0 0 0 0 0 0 1 0 0 1 1 1
Strophanthus speciosus *(Ward & Harv.) Reber*	5	4	0 0 0 1 0 0 1 0 0 0 0 0 1 1
Tabernaemontana elegans *Stapf.*	2	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Tabernaemontana ventricosa *Hochst. ex A. DC.*	1	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Voacanga thouarsii *Roem. & Schult.*	2	2	0 0 0 0 0 0 1 0 1 0 0 0 0 0
AQUIFOLIACEAE 1, 1, 1.0			
Ilex mitis *(L.) Radlk.*	1	12	1 1 1 1 0 1 1 0 1 1 1 1 1 1
ARACEAE 4, 6, 1.5			
Gonatopus boivinii *(Decne.) Engl.*	10	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Stylochiton natalense *Schott*	10	3	0 0 0 0 0 0 0 0 1 1 0 1 0 0
Stylochiton sp.	10	1	0 0 0 0 0 0 0 0 0 0 0 0 1 0
Zamioculcas zamiifolia *(Lodd.) Engl.*	10	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Zantedeschia aethiopica *(L.) Spreng.*	10	5	1 1 1 1 0 0 0 0 1 0 0 0 0 0
Zantedeschia albomaculata *(Hook.) Baill.*	10	3	0 0 0 1 0 0 0 0 0 0 0 0 1 1
ARALIACEAE 3, 9, 3.0			
Cussonia arenicola *Strey*	2	2	0 0 0 0 1 0 0 0 0 1 0 0 0 0
Cussonia natalensis *Sond.*	2	1	0 0 0 0 0 0 0 0 0 0 0 0 1 0
Cussonia nicholsonii *Strey*	2	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Cussonia sphaerocephala *Strey*	1	4	0 0 0 0 0 1 1 0 1 1 0 0 0 0
Cussonia spicata *Thunb.*	1	11	0 1 1 1 1 1 1 0 0 1 1 1 1 1
Cussonia thyrsiflora *Thunb.*	5	4	1 1 1 0 1 0 0 0 0 0 0 0 0 0
Cussonia zuluensis *Strey*	2	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Schefflera umbellifera *(Sond.) Baill.*	1	6	0 0 1 0 0 0 1 0 1 0 0 1 1 1
Seemannaralia gerrardii *(Seemann) Vig.*	2	1	0 0 0 0 0 0 0 0 0 0 0 0 1 0
ARECACEAE 1, 1, 1.0			
Phoenix reclinata *Jacq.*	2	6	0 0 0 0 1 0 1 0 1 1 0 1 1 0
ASCLEPIADACEAE 15, 31, 2.1			
Asclepias fruticosa *L.*	12	2	0 0 1 1 0 0 0 0 0 0 0 0 0 0
Astephanus marginatus *Decne.*	6	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Astephanus triflorus *(L. f.) Schultes*	6	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Ceropegia africana *R. Br.*	12	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Ceropegia nilotica *Kotschy*	12	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Ceropegia racemosa *N.E. Br.*	6	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Ceropegia woodii *Schltr.*	12	2	0 0 0 0 0 0 0 0 0 0 0 1 0 1
Cynanchum ellipticum *(Harv.) R.A. Dyer*	6	6	0 0 1 1 1 0 0 1 1 1 0 0 0 0
Cynanchum natalitium *Schltr.*	6	3	0 0 1 0 1 0 0 0 1 0 0 0 0 0
Cynanchum obtusifolium *L. f.*			
var. obtusifolium	6	5	1 0 1 0 1 0 0 0 1 1 0 0 0 0
var. pilosum *Schltr.*	6	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Cynanchum tetrapterum *(Turcz.) R.A. Dyer*	6	3	0 0 1 0 0 0 0 0 0 1 0 0 0 1
Dregea floribunda *E. Mey.*	6	1	0 0 0 0 1 0 0 0 0 0 0 0 0 0
Oncinema lineare *(L. f.) Bullock*	6	2	0 1 1 0 0 0 0 0 0 0 0 0 0 0
Pentarrhinum sp.	6	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Pergularia daemia *(Forssk.) Chiov.*	6	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Riocreuxia picta *Schltr.*	6	2	0 0 0 0 0 0 0 0 0 0 0 0 1 1
Riocreuxia torulosa *Decne.*	6	5	0 0 0 0 0 0 1 0 1 0 1 0 1 1
Sarcostemma viminale *(L.) R. Br.*	6	7	0 0 1 1 0 0 1 0 1 1 0 0 1 1
Schizoglossum bidens *E. Mey.*	6	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Secamone alpinii *Schultes*	5	12	1 1 1 1 1 1 1 0 0 1 1 1 1 1

FOREST

	GF	Fre	Pen	Gvb	Soc	Ama	Elc	Trm	Umt	Haw	Rib	Mlc	Cap	Sab	Mak	Net
Secamone filiformis *(L. f.) J.H. Ross*	5	3	0	0	0	1	1	0	0	0	0	1	0	0	0	0
Secamone frutescens *Decne.*	5	3	0	0	0	0	0	0	1	0	1	0	0	0	1	0
Secamone gerrardii *Harv. ex Benth.*	5	6	0	0	0	0	0	1	0	1	1	0	0	1	1	1
Secamone parvifolia *(Oliv.) Bullock*	5	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Stapelia hystrix *N.E. Br.*	12	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Telosma africana *(N.E. Br.) N.E. Br.*	6	2	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Tylophora anomala *N.E. Br.*	6	3	0	0	0	0	0	0	0	0	1	0	0	1	0	1
Tylophora cordata *(Thunb.) Druce*	6	3	0	0	1	1	1	0	0	0	0	0	0	0	0	0
Tylophora flanaganii *Schltr.*	6	4	0	0	0	1	0	0	0	0	0	0	1	1	0	1
Tylophora umbellata *Schltr.*	6	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
ASPIDIACEAE 8, 12, 1.5																
Arachniodes foliosa *(C. Chr.) Schelpe*	8	3	0	0	0	1	0	0	1	0	0	0	0	0	0	1
Ctenitis lanuginosa *(Willd. ex Kaulf.) Copel.*	7	3	0	0	1	0	0	1	0	0	0	0	0	0	0	1
Cyrtomium caryotideum *(Wall. ex Hook. & Grev.) Presl*	8	3	0	0	0	1	0	1	0	0	0	0	0	1	0	0
Dryopteris athamantica *(Kunze) Kuntze*	8	3	0	0	0	0	0	1	0	0	0	0	1	1	0	0
Dryopteris inaequalis *(Schlechtd.) Kuntze*	8	10	1	1	1	1	1	1	0	0	0	0	1	1	1	1
Hypodematium crenatum *(Forssk.) Kuhn*	8	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Polystichum luctuosum *(Kunze) T. Moore*	7	4	0	0	0	1	0	1	0	0	0	0	1	1	0	0
Polystichum pungens *(Kaulf.) Presl*	8	6	1	1	1	1	0	1	0	0	0	0	0	0	0	1
Polystichum transkeiense *W.B.G. Jacobsen*	8	2	0	0	0	1	0	0	1	0	0	0	0	0	0	0
Polystichum transvaalense *N.C. Anthony*	7	2	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Rumohra adiantiformis *(G. Forst.) Ching*	8	6	1	1	1	1	0	0	0	0	0	0	0	1	1	0
Tectaria gemmifera *(Fee) Alston*	7	2	0	0	0	0	0	0	0	0	0	0	0	1	0	1
ASPLENIACEAE 2, 24, 12.0																
Asplenium adiantum-nigrum *L.*	7	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0
Asplenium aethiopicum *(Burm. f.) Becherer*	7	8	1	1	1	1	1	1	0	0	0	0	0	0	1	1
Asplenium anisophyllum *Kunze*	9	3	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Asplenium boltonii *Hook. ex Schelpe*	7	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0
Asplenium dregeanum *Kunze*	7	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Asplenium erectum *Bory ex Willd.*	7	5	1	0	1	0	0	1	0	0	0	0	0	0	1	1
Asplenium friesiorum *C. Chr.*	7	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Asplenium gemmiferum *Schrad.*	7	3	0	0	1	0	0	0	0	0	0	0	0	0	1	1
Asplenium inaequilaterale *Willd.*	7	3	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Asplenium lobatum *Pappe & Raws.*	7	4	0	0	1	0	0	1	0	0	0	0	0	1	0	1
Asplenium lunulatum *Swartz*	7	7	1	0	1	1	1	1	1	0	0	0	0	1	0	0
Asplenium monanthes *L.*	7	4	1	0	1	0	0	1	0	0	0	0	1	0	0	0
Asplenium platyneuron *(L.) Oakes*	7	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0
Asplenium protensum *Schrad.*	7	4	1	0	1	1	0	1	0	0	0	0	0	0	0	0
Asplenium prionites *Kunze*	7	3	0	0	0	0	0	1	1	0	1	0	0	0	0	0
Asplenium rutifolium *(Berg.) Kunze*	7	10	1	1	1	1	0	1	1	0	0	0	1	1	1	1
Asplenium sandersonii *Hook.*	9	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Asplenium simii *Braithwaite & Schelpe*	9	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Asplenium splendens *Kunze*	7	6	0	0	0	0	0	1	1	0	0	0	1	1	1	1
Asplenium stoloniferum *Bory*	7	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Asplenium theciferum *(H.B.K.) Mett.*	9	3	1	0	1	0	0	0	0	0	0	0	0	0	1	0
Asplenium varians *Wall. ex Hook.* subsp. fimbriatum *(Kunze) Schelpe*	7	2	0	0	0	0	0	1	0	0	0	0	0	1	0	0
Asplenium × flexuosum *Schrad.*	7	3	0	0	1	1	0	0	0	0	0	0	0	0	0	1
Ceterach cordatum *(Thunb.) Desv.*	7	4	0	0	1	1	0	1	0	0	0	0	0	0	1	0
ASTERACEAE 30, 81, 2.7																
Adenostemma perrottetii *DC.*	12	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Anisochaeta mikanoides *DC.*	12	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Artemisia afra *Jacq. ex Willd.*	12	5	0	1	0	1	0	0	1	0	1	0	1	0	0	0
Athanasia trifurcata *(L.) L.*	12	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Athrixia phylicoides *DC.*	12	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Berkheya bipinnatifida *(Harv.) Roessl.*	12	3	0	0	0	1	0	0	1	0	1	0	0	0	0	0
Berkheya echinacea *(Harv.) O. Hoffm. ex Burtt Davy*	12	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Berkheya erysithales *(DC.) Roessl.*	12	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Berkheya speciosa *(DC.) O. Hoffm.*	12	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Blumea mollis *(D. Don) Merr.*	12	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Brachylaena discolor *DC.*																
subsp. discolor	3	5	0	0	0	0	1	0	0	1	1	1	0	1	0	0
subsp. transvaalensis *(Phill. & Schweik.) J. Paiva*	2	3	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Brachylaena elliptica *(Thunb.) DC.*	2	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0
Brachylaena glabra *(L. f.) Druce*	1	2	0	0	1	0	0	0	1	0	0	0	0	0	0	0
Brachylaena neriifolia *(L.) R. Br.*	3	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0
Brachylaena uniflora *Harv.*	2	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Chrysanthemoides monilifera *(L.) T. Norl.*	4	10	1	1	1	1	1	0	1	1	1	1	1	0	0	0
Cineraria geraniifolia *DC.*	6	3	0	0	0	1	0	0	1	0	0	0	1	0	0	0
Cineraria lobata *L'Hérit.*	6	2	0	0	1	0	0	0	0	0	0	0	1	0	0	0
Cineraria sp.	6	2	0	0	0	0	0	0	1	0	0	0	0	0	1	0
Conyza pinnata *(L. f.) Kuntze*	12	2	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Crassocephalum sp.	12	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Dichrocephala integrifolia *(L. f.) Kuntze*	12	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Euryops leiocarpus *(DC.) B. Nord.*	3	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Felicia aculeata *Grau*	12	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Felicia filifolia *(Vent.) Burtt Davy*	12	2	0	0	0	1	0	1	0	0	0	0	0	0	0	0
Felicia westae *(Fourc.) Grau*	12	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Gazania rigens *(L.) Gaertn.*	12	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Gerbera aurantiaca *Sch. Bip.*	12	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Gerbera cordata *(Thunb.) Less.*	12	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Gerbera jamesonii *H. Bol. ex Adlam*	12	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Helichrysum appendiculatum *(L. f.) Less.*	12	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Helichrysum cymosum *(L.) D. Don*	12	6	1	0	1	1	1	0	1	0	1	0	0	0	0	0
Helichrysum decorum *DC.*	12	2	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Helichrysum kraussii *Sch. Bip.*	12	4	0	0	0	0	0	0	0	1	1	1	0	1	0	0
Helichrysum nudifolium *(L.) Less.*	12	4	0	0	0	1	0	0	0	0	1	1	0	1	0	0
Helichrysum odoratissimum *(L.) Sweet*	12	2	0	0	0	0	0	0	0	0	1	0	0	1	0	0
Helichrysum panduratum *O. Hoffm.*																
var. transvaalense *Moeser*	12	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Helichrysum petiolare *Hilliard & Burtt*	12	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0
Helichrysum populifolium *DC.*	12	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Helichrysum sp.	12	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Hippia frutescens *(L.) L.*	12	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0
Inulanthera calva *(Hutch.) Kallersjo*	12	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Metalasia muricata *(L.) D. Don*	3	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Mikania natalensis *DC.*	5	7	0	0	1	1	0	0	1	0	1	0	0	1	1	1
Nidorella auriculata *DC.*	12	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Osmitopsis osmitoides *(Less.) Bremer*	4	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0
Phymaspermum acerosum *(DC.) Kallersjo*	12	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Schistostephium heptalobum *(DC.) Oliv. & Hiern*	12	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Senecio albanensis *DC.*																
var. doroniciflorus *(DC.) Harv.*	12	2	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Senecio amabilis *DC.*	12	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Senecio angulatus *L. f.*	6	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0

			FOREST
	GF	Fre	P G S A E T U H R M C S M N e v o m l r m a i l a a a e n b c a c m t w b c p b k t
Senecio bryoniifolius *Harv.*	6	2	0 0 0 0 0 0 1 0 0 1 0 0 0 0
Senecio cissampelinus *(DC.) Sch. Bip.*	5	3	0 0 0 1 0 1 0 0 0 0 0 0 0 1
Senecio crenatus *Thunb.*	12	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Senecio deltoideus *Less.*	6	10	0 1 1 1 1 0 0 0 1 1 1 1 1 1
Senecio erubescens *Ait.*	12	2	0 0 0 1 0 0 0 0 1 0 0 0 0 0
Senecio helminthioides *(Sch. Bip.) Hilliard*	12	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Senecio ilicifolius *L.*	12	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Senecio inaequidens *DC.*	12	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Senecio junodii *Hutch. & Burtt Davy*	4	1	0 0 0 0 0 0 0 0 0 0 0 0 1 0
Senecio macroglossus *DC.*	6	1	0 0 0 0 1 0 0 0 0 0 0 0 0 0
Senecio medley-woodii *Hutch.*	12	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Senecio mikanioides *Otto ex Harv.*	6	6	0 0 1 1 0 0 0 0 1 1 0 1 1 0
Senecio panduriformis *Hilliard*	12	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Senecio pterophorus *DC.*	6	4	0 0 0 1 1 0 0 0 0 0 0 0 1 0
Senecio quinquelobus *(Thunb.) DC.*	6	5	0 1 1 1 1 0 0 0 0 0 0 0 1 0
Senecio tamoides *DC.*	6	5	0 0 0 1 0 0 0 0 0 0 1 1 1 1
Tarchonanthus camphoratus *L.*	1	5	1 0 1 1 1 0 1 0 0 0 0 0 0 0
Tarchonanthus trilobus *DC.*	2	3	0 0 0 0 0 0 1 0 0 0 0 1 1 0
Tenrhynea phylicifolia *(DC.) Hilliard & Burtt*	12	2	0 0 0 0 0 0 1 0 0 0 0 1 0 0
Vernonia adoensis *Sch. Bip. ex Walp.*	3	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Vernonia amygdalina *Del.*	12	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Vernonia anisochaetoides *Sond.*	5	5	0 0 1 1 1 0 0 0 1 1 0 0 0 0
Vernonia angulifolia *DC.*	5	2	0 0 0 0 0 0 0 1 1 0 0 0 0 0
Vernonia aurantiaca *(O. Hoffm.) N.E. Br.*	5	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Vernonia crataegifolia *Hutch.*	5	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Vernonia mespilifolia *Less.*	5	3	0 0 1 0 0 1 0 0 0 0 0 0 0 1
Vernonia neocorymbosa *Hilliard*	5	2	0 0 0 0 0 0 1 0 0 0 0 1 0 0
Vernonia stipulacea *Klatt*	3	2	0 0 0 0 0 0 0 0 0 0 0 1 1 0
Vernonia wollastonii *S. Moore*	3	2	0 0 0 0 0 0 0 0 0 0 0 1 1 0
ATHYRIACEAE 2, 2, 1.0			
Athyrium scandicinum *(Willd.) Presl*	7	3	0 0 0 0 0 0 0 0 0 0 0 1 1 1
Cystopteris fragilis *(L.) Bernh.*	8	3	0 0 0 1 0 1 0 0 0 0 1 0 0 0
BALANITACEAE 1, 1, 1.0			
Balanites maughamii *Sprague*	1	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
BALSAMINACEAE 1, 2, 2.0			
Impatiens hochstetteri *Warb.*	12	7	0 1 1 1 0 0 0 0 0 0 1 1 1 1
Impatiens sylvicola *Burtt Davy & Greenway*	12	2	0 0 0 0 0 0 0 0 0 0 0 0 1 1
BEGONIACEAE 1, 4, 4.0			
Begonia dregei *Otto & Dietr.*	12	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Begonia homonyma *Steud.*	12	1	0 0 0 0 0 0 0 0 0 0 0 0 1 0
Begonia sp.	4	2	0 0 0 0 0 0 0 0 0 0 0 1 1 0
Begonia sutherlandii *Hook. f.*	12	3	0 0 0 0 0 1 1 0 0 0 1 0 0 0
BIGNONIACEAE 1, 1, 1.0			
Tecomaria capensis *(Thunb.) Spach*	3	3	0 0 0 0 0 0 1 1 0 0 0 1 0 0
BLECHNACEAE 2, 6, 3.0			
Blechnum australe *L.*	7	6	1 1 1 1 0 1 0 0 0 0 1 0 0 0
Blechnum capense *Burm. f.*	7	6	1 1 1 1 0 0 1 0 0 0 0 0 1 0
Blechnum giganteum *(Kaulf.) Schlechtd.*	7	9	1 1 1 1 0 1 0 0 0 0 1 1 1 1
Blechnum punctulatum *Swartz*	7	8	1 1 1 1 1 1 0 0 0 0 1 0 1 0
Blechnum tabulare *(Thunb.) Kuhn*	7	9	1 1 1 1 0 1 1 0 0 0 0 1 1 1
Stenochlaena tenuifolia *(Desv.) T. Moore*	9	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
BORAGINACEAE 3, 3, 1.0			
Cordia caffra *Sond.*	1	5	0 0 0 0 1 0 1 1 1 1 0 0 0 0
Cynoglossum lanceolatum *Forssk.*	12	3	0 0 1 1 0 0 0 0 0 0 0 0 0 1
Ehretia rigida *(Thunb.) Druce*	3	4	0 0 0 1 1 1 1 0 0 0 0 0 0 0
BRASSICACEAE 3, 3, 1.0			
Cardamine africana *L.*	12	6	0 1 1 1 0 0 0 0 0 0 1 0 1 1
Helophila scandens *Harv.*	12	1	0 0 0 0 0 0 0 1 0 0 0 0 0 0
Lepidium ecklonii *Schrad.*	12	2	0 0 1 1 0 0 0 0 0 0 0 0 0 0
BURSERACEAE 1, 4, 4.0			
Commiphora africana *(A. Rich.) Engl.*	2	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Commiphora harveyi *(Engl.) Engl.*	2	6	0 0 0 0 1 1 1 0 1 1 0 0 1 0
Commiphora woodii *Engl.*	2	3	0 0 0 1 0 1 1 0 0 0 0 0 0 0
Commiphora zanzibarica *(Baill.) Engl.*	2	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
BUXACEAE 1, 2, 2.0			
Buxus macowanii *Oliv.*	2	2	0 0 0 0 1 0 1 0 0 0 0 0 0 0
Buxus natalensis *(Oliv.) Hutch.*	3	2	0 0 0 0 0 0 1 1 0 0 0 0 0 0
CAMPANULACEAE 1, 1, 1.0			
Wahlenbergia undulata *DC.*	12	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
CANELLACEAE 1, 1, 1.0			
Warburgia salutaris *(Bertol. f.) Chiov.*	12	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
CAPPARACEAE 6, 14, 2.3			
Bachmannia woodii *(Oliv.) Gilg*	3	2	0 0 0 0 0 0 1 0 1 0 0 0 0 0
Capparis brassii *DC.*	5	6	0 0 0 0 1 0 1 1 1 1 0 1 0 0
Capparis fascicularis *DC.*			
var. fascicularis	3	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
var. zeyheri *(Turcz.) Toelken*	3	3	0 0 0 0 0 0 0 1 1 1 0 0 0 0
Capparis sepiaria *L.*			
var. citrifolia *(Lam.) Toelken*	5	6	0 1 1 0 1 1 0 1 0 1 0 0 0 0
var. subglabra *(Oliv.) DeWolf*	5	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Capparis tomentosa *Lam.*	3	4	0 0 0 0 0 0 1 1 1 0 0 0 1 0
Cladostemon kirkii *(Oliv.) Pax & Gilg*	3	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Cleome sp.	3	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Maerua cafra *(DC.) Pax*	3	5	0 0 0 0 1 0 1 0 1 0 0 0 1 1
Maerua juncea *Pax*	3	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Maerua nervosa *(Hochst.) Oliv.*	3	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Maerua racemulosa *(DC.) Gilg & Ben.*	3	5	0 0 1 1 0 1 0 1 1 0 0 0 0 0
Thilachium africanum *Lour.*	2	1	0 0 0 0 1 0 0 0 0 0 0 0 0 0
CARYOPHYLLACEAE 1, 1, 1.0			
Drymaria cordata *(L.) Willd.*	12	2	0 0 1 0 0 0 1 0 0 0 0 0 0 0
CELASTRACEAE 12, 40, 3.3			
Allocassine laurifolia *(Harv.) N.K.B. Robson*	5	4	0 0 0 0 0 0 1 1 1 1 0 0 0 0
Cassine aethiopica *Thunb.*	1	7	0 0 1 1 1 1 1 0 1 1 0 0 0 0
Cassine crocea *(Thunb.) Kuntze*	2	2	0 0 0 0 1 0 1 0 0 0 0 0 0 0
Cassine eucleiformis *(Eckl. & Zeyh.) Kuntze*	2	8	1 1 1 0 0 0 1 0 1 1 0 0 1 1
Cassine maritima *(H. Bol.) L. Bol.*	3	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Cassine papillosa *(Hochst.) Kuntze*	2	10	0 1 1 1 1 1 1 1 1 1 0 0 0 1
Cassine parvifolia *Sond.*	3	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Cassine peraqua *L.*	1	7	1 1 1 0 1 1 1 0 0 1 0 0 0 0
Cassine tetragona *(L. f.) Loes.*	3	6	0 0 1 1 1 1 1 0 0 0 1 0 0 0
Catha edulis *(Vahl) Forssk. ex Endl.*	2	2	0 0 0 1 0 0 0 0 0 0 0 1 0 0
Hartogiella schinoides *(Spreng.) Codd*	2	3	1 1 1 0 0 0 0 0 0 0 0 0 0 0
Hippocratea africana *(Willd.) Loes.*	5	1	0 0 0 0 0 0 0 0 0 0 0 0 0 1
Hippocratea delagoensis *Loes.*	5	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Hippocratea schlechteri *Loes.*	5	3	0 0 0 0 0 0 1 1 1 0 0 0 0 0
Maurocenia frangularia *(L.) Mill.*	2	1	1 0 0 0 0 0 0 0 0 0 0 0 0 0
Maytenus abbottii *Van Wyk*	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Maytenus acuminata *(L. f.) Loes.*	2	9	1 1 1 1 0 1 1 0 0 1 1 0 1 0
Maytenus angularis *(Sim) Van Wyk*	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0

	GF	Fre	FOREST Pen	Gvb	Soc	Ama	Elc	Trm	Umt	Haw	Rib	Mlc	Cap	Sab	Mak	Net
Maytenus bachmannii *(Loes.) Marais*	3	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Maytenus heterophylla *(Eckl. & Zeyh.) N.K.B. Robson*	2	13	1	1	1	1	1	1	1	0	1	1	1	1	1	1
Maytenus mossambicensis *(Klotzsch) Blakelock*																
var. mossambicensis	3	5	0	0	0	0	0	1	1	0	1	0	1	0	0	1
var. rubra *(Harv.) Blakelock*	3	3	0	0	0	0	0	0	1	0	0	0	0	1	1	0
Maytenus nemorosa *(Eckl. & Zeyh.) Marais*	2	7	0	0	1	1	1	1	1	0	1	1	0	0	0	0
Maytenus oleoides *(Lam.) Loes.*	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Maytenus oleosa *Van Wyk & Archer*	2	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Maytenus peduncularis *(Sond.) Loes.*	1	9	0	0	1	1	0	1	1	0	1	0	1	1	1	1
Maytenus procumbens *(L. f.) Loes.*	3	5	0	0	1	0	1	0	0	1	1	1	0	0	0	0
Maytenus senegalensis *(Lam.) Exell*	3	2	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Maytenus undata *(Thunb.) Blakelock*	2	12	0	0	1	1	1	1	1	1	1	1	1	1	1	1
Pleurostylia capensis *(Turcz.) Oliv.*	1	4	0	0	0	1	1	1	1	0	0	0	0	0	0	0
Pseudosalacia streyi *Codd*	2	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Pterocelastrus echinatus *N.E. Br.*	1	4	0	0	0	0	0	0	1	0	0	0	1	1	1	0
Pterocelastrus rostratus *Walp.*	2	3	0	1	1	0	0	0	1	0	0	0	0	0	0	0
Pterocelastrus sp.	1	2	0	0	0	0	0	1	0	0	0	0	1	0	0	0
Pterocelastrus tricuspidatus *(Lam.) Sond.*	1	6	0	1	1	1	1	1	1	0	0	0	0	0	0	0
Putterlickia pyracantha *(L.) Szyszyl.*	3	3	1	0	1	0	0	0	1	0	0	0	0	0	0	0
Putterlickia retrospinosa *Van Wyk & Mostert*	5	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Putterlickia verrucosa *(E. Mey. ex Sond.) Szyszyl.*	3	5	0	0	0	1	0	0	1	1	1	1	0	0	0	0
Salacia gerrardii *Harv.*	5	4	0	0	0	0	0	1	1	0	1	1	0	0	0	0
Salacia kraussii *(Harv.) Harv.*	5	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
CHRYSOBALANACEAE 1, 1, 1.0																
Parinari curatellifolia *Planch. ex Benth.*	1	3	0	0	0	0	0	0	0	0	1	1	0	1	0	0
CLUSIACEAE 2, 4, 2.0																
Garcinia gerrardii *Harv. ex Sim*	2	3	0	0	0	0	0	0	1	1	0	1	0	0	0	0
Garcinia livingstonei *T. Anders.*	2	2	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Hypericum lalandii *Choisy*	3	3	0	0	0	1	0	0	0	0	1	0	0	0	1	0
Hypericum revolutum *Vahl*	3	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1
COMBRETACEAE 2, 6, 3.0																
Combretum bracteosum *(Hochst.) Brandis ex Engl.*	5	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Combretum collinum *Fresen.* subsp. suluense *(Engl. & Diels) Okafor*	2	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Combretum erythrophyllum *(Burch.) Sond.*	1	2	0	0	0	0	1	0	1	0	0	0	0	0	0	0
Combretum kraussii *Hochst.*	1	6	0	0	0	0	1	0	1	0	0	1	0	1	1	1
Combretum molle *R. Br. ex G. Don*	2	2	0	0	0	0	0	0	0	0	1	0	0	1	0	0
Quisqualis parviflora *Gerr. ex Harv.*	3	2	0	0	0	0	0	0	1	0	0	0	0	0	1	0
COMMELINACEAE 5, 8, 1.6																
Aneilema aequinoctiale *(Beauv.) Kunth*	10	3	0	0	0	0	0	0	0	0	1	1	0	1	0	0
Coleotrype natalensis *C.B. Cl.*	10	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Commelina africana *L.*	12	10	1	0	1	1	0	0	1	0	1	1	1	1	1	1
Commelina benghalensis *L.*	12	3	0	0	0	0	0	0	0	1	1	1	0	0	0	0
Commelina eckloniana *Kunth*	12	3	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Commelina livingstonii *C.B. Cl.*	12	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Cyanotis pachyrrhiza *Oberm.*	12	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Floscopa glomerata *(Willd. ex Schult. & Schult. f.) Hassk.*	12	2	0	0	0	0	0	0	0	0	1	0	0	1	0	0
CONNARACEAE 1, 1, 1.0																
Cnestis natalensis *(Hochst.) Planch. & Sond.*	5	6	0	0	0	0	0	1	1	0	1	0	0	1	1	1
CONVOLVULACEAE 7, 15, 2.1																
Astripomoea malvacea *(Klotzsch) A. Meeuse*	6	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Convolvulus farinosus *L.*	6	3	0	0	1	1	0	0	0	0	0	0	0	0	0	1
Convolvulus capensis *Burm. f.* var. bowieanus *(Rendle) A. Meeuse*	6	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Convolvulus natalensis *Bernh. apud Krauss*	6	2	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Cuscuta africana *Willd.*	6	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0
Cuscuta kilimanjari *Oliv.*	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Dichondria repens *L. f.*	12	2	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Falkia repens *L. f.*	12	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Hewittia sublobata *(L. f.) Kuntze*	6	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Ipomoea wightii *(Wall.) Choisy*	6	5	0	0	0	0	0	0	1	0	1	1	0	0	1	1
Ipomoea cairica *(L.) Sweet*	6	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Ipomoea ficifolia *Lindl.*	6	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Ipomoea mauritiana *Jacq.*	6	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Ipomoea sinensis *(Desr.) Choisy*	6	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Ipomoea urbaniana *(Damm.) Hallier f.*	6	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
CORNACEAE 1, 1, 1.0																
Curtisia dentata *(Burm. f.) C.A. Sm.*	1	8	1	1	1	1	0	1	0	0	0	0	1	0	1	1
CRASSULACEAE 3, 20, 6.7																
Cotyledon orbiculata *L.*	4	3	0	0	1	1	0	0	1	0	0	0	0	0	0	0
Crassula alba *Forssk.*	12	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Crassula cordata *Thunb.*	12	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0
Crassula lactea *Soland.*	12	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Crassula multicava *Lem.*	12	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Crassula natalensis *Schonl.*	12	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Crassula orbicularis *L.*	12	3	0	0	1	1	0	1	0	0	0	0	0	0	0	0
Crassula ovata *(Mill.) Druce*	12	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Crassula pellucida *L.*																
subsp. alsinoides *(Hook. f.) Toelken*	12	3	0	0	1	0	0	0	1	0	0	0	0	1	0	0
subsp. marginalis *(Dryand. in Ait.) Toelken*	12	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0
Crassula perforata *Thunb.*	12	2	0	0	1	0	0	0	1	0	0	0	0	0	0	0
Crassula rubricaulis *Eckl. & Zeyh.*	12	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Crassula sarcocaulis *Eckl. & Zeyh.*	12	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Crassula sarmentosa *Harv.*	12	2	0	0	1	0	0	0	1	0	0	0	0	0	0	0
Crassula spathulatha *Thunb.*	12	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0
Crassula streyi *Toelken*	12	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Crassula subulata *L.*	12	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Crassula swaziensis *Schonl.*	12	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Crassula umbraticola *N.E. Br.*	12	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Kalanchoe rotundifolia *(Haw.) Haw.*	12	2	0	0	0	0	0	0	0	0	1	0	0	1	0	0
CUCURBITACEAE 7, 13, 1.9																
Coccinia adoensis *(A. Rich.) Cogn.*	6	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Coccinia palmata *(Sond.) Cogn.*	6	5	0	0	0	0	0	0	1	0	1	1	0	1	1	0
Coccinia quinqueloba *(Thunb.) Cogn.*	6	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0
Coccinia sessilifolia *(Sond.) Cogn.*	6	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Coccinia variifolia *A. Meeuse*	6	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Kedrostis foetidissima *(Jacq.) Cogn.*	6	2	0	0	1	0	0	0	0	0	1	0	0	0	0	0
Kedrostis nana *(Lam.) Cogn.*	6	3	0	0	1	0	1	1	0	0	0	0	0	0	0	0
Lagenaria sphaerica *(Sond.) Naud.*	6	2	0	0	1	0	0	0	1	0	0	0	0	0	0	0
Momordica balsamina *L.*	6	2	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Oreosyce africana *Hook. f.*	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Trochomeria hookeri *Harv.*	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Zehneria parvifolia *(Cogn.) J.H. Ross*	6	2	0	0	0	0	0	0	1	0	1	0	0	0	0	0
Zehneria scabra *(L. f.) Sond.*	6	7	1	1	1	1	0	0	1	0	0	0	1	0	0	1

	GF	Fre	FOREST P G S A E T U H R M C S M N e v o m l r m a i l a a a e n b c a c m t w b c p b k t
CUNONIACEAE 2, 2, 1.0			
Cunonia capensis *L.*	1	5	1 1 1 1 0 0 1 0 0 0 0 0 0 0
Platylophus trifoliatus *(L. f.) D. Don*	1	3	1 1 1 0 0 0 0 0 0 0 0 0 0 0
CUPRESSACEAE 1, 1, 1.0			
Widdringtonia cupressoides *(L.) Endl.*	2	6	1 1 1 1 0 0 0 0 0 0 1 0 1 0
CYATHEACEAE 1, 2, 2.0			
Cyathea capensis *(L. f.) J.E. Sm.*	7	6	1 1 1 1 0 0 0 0 0 0 0 0 1 1
Cyathea dregei *Kunze*	7	5	0 0 0 0 0 1 0 0 0 0 1 1 1 1
CYPERACEAE 11, 35, 3.2			
Carex aethiopica *Schkuhr*	11	6	1 1 1 1 0 0 0 0 0 0 0 0 1 1
Carex spicato-paniculata *C.B. Cl.*	11	2	0 0 0 0 0 0 0 0 0 0 1 1 0 0
Carpha glomerata *(Thunb.) Nees*	11	3	0 0 1 1 0 0 1 0 0 0 0 0 0 0
Cyperus albostriatus *Schrad.*	11	10	0 0 0 1 1 1 1 1 1 1 0 1 1 1
Cyperus crassipes *Vahl*	11	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Cyperus denudatus *L. f.*	11	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Cyperus immensus *C.B. Cl.*	11	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Cyperus leptocladus *Kunth*	11	3	0 0 0 0 0 0 0 0 1 1 0 1 0 0
Cyperus natalensis *Hochst.*	11	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Cyperus obtusiflorus *Vahl*	11	4	0 0 0 1 0 0 0 0 1 1 0 1 0 0
Cyperus pseudoleptocladus *Kuekenth.*	11	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Cyperus sexangularis *Nees*	11	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Cyperus tenax *Boeck.*	11	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Cyperus tenellus *L. f.*	11	2	0 0 1 1 0 0 0 0 0 0 0 0 0 0
Epischoenus adnatus *Levyns*	11	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Ficinia acuminata *(Steud.) Nees*	11	3	1 1 0 0 1 0 0 0 0 0 0 0 0 0
Ficinia fascicularis *Nees*	11	2	0 0 1 1 0 0 0 0 0 0 0 0 0 0
Ficinia leiocarpa *Nees*	11	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Ficinia sp.	11	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Fimbristylis complanata *(Retz.) Link*	11	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Fimbristylis hispidula *(Vahl) Kunth*	11	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Fimbristylis obtusifolia *(Lam.) Kunth*	11	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Isolepis costata *(Boeck.) A. Rich.*	11	2	0 0 1 1 0 0 0 0 0 0 0 0 0 0
Isolepis ludwigii *Kunth*	11	2	0 0 1 1 0 0 0 0 0 0 0 0 0 0
Isolepis prolifer *R. Br.*	11	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Mariscus congestus *(Vahl) C.B. Cl.*	11	5	0 0 0 1 0 0 0 0 1 0 1 0 1 1
Mariscus dregeanus *Kunth*	11	2	0 0 0 0 0 0 0 1 1 0 0 0 0 0
Mariscus sumatrensis *(Retz.) J. Raynal*	11	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Schoenoplectus corymbosus *(Roth. ex Roem. & Schult.) J. Raynal*	11	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Schoenoxiphium altum *Kukkonen*	11	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Schoenoxiphium lanceum *(Thunb.) Kuekenth.*	11	5	1 1 1 0 0 0 1 0 0 0 0 0 1 0
Schoenoxiphium lehmannii *(Nees) Steud.*	11	8	1 1 1 1 1 0 1 0 0 0 1 1 0 0
Schoenoxiphium sparteum *(Wahlenb.) C.B. Cl.*	11	1	0 0 0 0 0 0 0 0 0 0 1 0 0 0
Scleria natalensis *C.B. Cl.*	11	3	0 0 1 0 0 0 1 0 0 0 0 0 1 0
Scleria angusta *Nees ex Kunth*	11	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
DAVALLIACEAE 3, 4, 1.3			
Arthropteris monocarpa *(Cordem.) C. Chr.*	7	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Nephrolepis biserrata *(Swartz) Schott*	7	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Nephrolepis exaltata *(L.) Schott*	7	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Oleandra distenta *Kunze*	7	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
DENNSTAEDTIACEAE 4, 5, 1.3			
Blotiella glabra *(Bory) Tryon*	8	3	0 0 1 0 0 0 0 0 0 0 0 1 1 0
Blotiella natalensis *(Hook.) Tryon*	7	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Histiopteris incisa *(Thunb.) J. Sm.*	8	5	1 1 1 1 0 0 0 0 0 0 0 0 1 0
Hypolepis sparsisora *(Schrad.) Kuhn*	8	7	1 1 1 1 0 0 0 0 0 0 0 1 1 1
Pteridium aquilinum *(L.) Kuhn*	8	10	1 1 1 1 0 0 0 0 1 1 1 1 1 1
DICHAPETALACEAE 1, 1, 1.0			
Tapura fischeri *Engl.*	1	2	0 0 0 0 0 0 0 1 0 1 0 0 0 0
DIOSCOREACEAE 1, 6, 6.0			
Dioscorea cotinifolia *Kunth*	6	5	0 0 0 0 0 0 1 0 1 0 0 1 1 1
Dioscorea crinita *Hook. f.*	6	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Dioscorea dregeana *(Kunth) Dur. & Schinz*	6	4	0 0 0 0 0 1 1 0 0 0 0 1 0 1
Dioscorea mundtii *Bak.*	6	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Dioscorea retusa *Mast.*	6	4	0 0 0 1 1 0 0 0 0 0 0 0 1 1
Dioscorea sylvatica *(Kunth) Eckl.*	6	7	0 0 1 1 0 0 0 0 1 1 1 1 1 0
DIPSACACEAE 1, 1, 1.0			
Scabiosa columbaria *L.*	12	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
EBENACEAE 2, 19, 9.5			
Diospyros austro-africana *De Winter*	3	3	0 0 0 1 1 0 0 0 0 0 1 0 0 0
Diospyros dichrophylla *(Gand.) De Winter*	1	5	0 0 1 1 1 1 1 0 0 0 0 0 0 0
Diospyros glabra *(L.) De Winter*	3	2	0 1 1 0 0 0 0 0 0 0 0 0 0 0
Diospyros inhacaensis *F. White*	1	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Diospyros lycioides *Desf.*	3	8	0 0 0 1 0 0 1 0 1 1 1 1 1 1
Diospyros natalensis *(Harv.) Brenan*	2	5	0 0 0 0 1 0 1 1 1 1 0 0 0 0
Diospyros pallens *(Thunb.) F. White*	3	2	0 0 1 0 1 0 0 0 0 0 0 0 0 0
Diospyros rotundifolia *Hiern*	3	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Diospyros scabrida *(Harv. ex Hiern) De Winter*	3	6	0 0 0 1 1 1 1 0 1 1 0 0 0 0
Diospyros simii *(Kuntze) De Winter*	3	4	0 1 0 1 0 1 1 0 0 0 0 0 0 0
Diospyros villosa *(L.) De Winter*	5	6	0 0 0 1 1 1 1 1 1 0 0 0 0 0
Diospyros whyteana *(Hiern) F. White*	2	10	1 1 1 1 0 1 0 0 0 1 1 1 1 1
Euclea crispa *(Thunb.) Guerke*	2	8	0 0 1 1 0 1 1 0 0 0 1 1 1 1
Euclea divinorum *Hiern*	2	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Euclea natalensis *A. DC.*	2	7	0 0 0 0 1 1 1 1 1 1 0 1 0 0
Euclea polyandra *(L. f.) E. Mey. ex Hiern*	3	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Euclea racemosa *Murray*	2	3	0 1 1 0 1 0 0 0 0 0 0 0 0 0
Euclea schimperi *(A. DC.) Dandy*	2	7	0 1 1 1 1 1 0 0 0 1 0 1 0 0
Euclea undulata *Thunb.*	2	5	0 0 1 1 1 0 1 0 0 1 0 0 0 0
ERICACEAE 1, 1, 1.0			
Erica natalitia *H. Bol.*	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
ERYTHROXYLACEAE 2, 5, 2.5			
Erythroxylon delagoense *Schinz*	2	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Erythroxylon emarginatum *Thonn.*	2	4	0 0 0 0 1 0 0 1 1 1 0 0 0 0
Erythroxylon pictum *E. Mey. ex Sond.*	3	5	0 0 0 0 1 1 1 0 1 1 0 0 0 0
Nectaropetalum capense *(H. Bol.) Stapf & Boodle*	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Nectaropetalum zuluense *(Schonl.) Corbishley*	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
ESCALLONACEAE 1, 1, 1.0			
Choristylis rhamnoides *Harv.*	2	4	0 0 0 1 0 1 0 0 0 0 0 1 0 1
EUPHORBIACEAE 36, 67, 2.2			
Acalypha capensis *(L. f.) Prain & Hutch.*	12	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Acalypha ecklonii *Baill.*	12	3	0 0 1 1 0 0 0 0 1 0 0 0 0 0
Acalypha glabrata *Thunb.*	3	5	0 0 0 1 1 0 1 1 0 1 0 0 0 0
Acalypha petiolaris *Hochst.*	3	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Acalypha punctata *Meisn.*	4	1	0 0 0 0 0 0 0 0 0 0 0 0 1 0
Acalypha sonderiana *Muell. Arg.*	12	1	0 0 0 0 0 0 0 1 0 0 0 0 0 0
Acalypha wilmsii *Pax ex Prain & Hutch.*	3	1	0 0 0 0 0 1 0 0 0 0 0 0 0 0
Adenocline acuta *(Thunb.) Baill.*	6	7	0 1 1 1 0 1 0 0 1 0 1 0 0 1
Alchornea hirtella *Benth.*	2	1	0 0 0 0 0 0 0 0 0 0 0 0 1 0
Andrachne ovalis *(Sond.) Muell. Arg.*	3	5	0 0 1 1 0 1 0 0 0 0 0 1 0 1

Taxon	GF	Fre	FOREST: P G S A E T U H R M C S M N / e v o m l r m a i l a a a e / n b c a c m t w b c p b k t
Antidesma venosum *E. Mey. ex Tul.*	2	3	0 0 0 0 0 0 0 0 1 1 0 1 0 0
Bridelia cathartica *Bertol. f.*	2	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Bridelia micrantha *(Hochst.) Baill.*	1	4	0 0 0 0 0 0 1 0 1 1 0 1 0 0
Cavacoa aurea *(Cavaco) J. Leonard*	1	1	0 0 0 0 0 0 0 1 0 0 0 0 0 0
Cleistanthus schlechteri *(Pax) Hutch.*	2	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Clutia abyssinica *Jaub. & Spach*	3	2	0 0 0 0 0 0 1 0 1 0 0 0 0 0
Clutia affinis *Sond.*	3	4	0 0 1 1 0 0 0 0 0 0 0 0 1 1
Clutia alaternoides *L.*	4	3	1 0 1 1 0 0 0 0 0 0 0 0 0 0
Clutia hirsuta *E. Mey. ex Sond.*	4	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Clutia laxa *Eckl. ex Sond.*	3	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Clutia pulchella *L.*			
var. pulchella	3	6	1 1 1 1 0 1 1 0 0 0 0 0 0 0
var. obtusata *Sond.*	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Croton gratissimus *Burch.*	3	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Croton rivularis *Muell. Arg.*	3	2	0 0 0 1 1 0 0 0 0 0 0 0 0 0
Croton sylvaticus *Hochst.*	3	5	0 0 0 0 0 0 1 1 1 0 0 0 1 1
Croton zambesicus *Muell. Arg.*	3	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Ctenomaria capensis *(Thunb.) Harv. ex Sond.*	6	6	0 0 1 1 0 0 1 0 1 0 0 1 0 1
Dalechampia capensis *Spreng. f.*	3	4	0 0 0 0 1 0 1 0 1 0 0 1 0 0
Dalechampia kirkii *Prain*	3	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Dalechampia volubilis *E. Mey. ex Baill.*	3	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Drypetes arguta *(Muell. Arg.) Hutch.*	2	4	0 0 0 0 0 0 1 1 1 1 0 0 0 0
Drypetes gerrardii *Hutch.*	1	4	0 0 0 0 0 0 1 0 0 1 0 1 0 1
Drypetes natalensis *(Harv.) Hutch.*	1	3	0 0 0 0 0 0 0 1 1 1 0 0 0 0
Erythrococca berberidea *Prain*	2	4	0 0 0 0 0 0 1 1 1 1 0 0 0 0
Erythrococca natalensis *Prain*	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Erythrococca sp. nov.	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Euphorbia grandidens *Haw.*	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Euphorbia gueinzii *Boiss.*	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Euphorbia kraussiana *Bernh.*	4	9	0 0 1 1 1 1 1 0 1 0 0 1 1 1
Euphorbia tirucalli *L.*	4	2	0 0 0 0 0 0 1 0 0 1 0 0 0 0
Euphorbia triangularis *Desf.*	3	2	0 0 0 0 1 0 1 0 0 0 0 0 0 0
Excoecaria simii *(Kuntze) Pax*	3	4	0 0 1 1 1 0 1 0 0 0 0 0 0 0
Heywoodia lucens *Sim*	1	2	0 0 0 0 0 0 1 0 1 0 0 0 0 0
Hymenocardia ulmoides *Oliv.*	2	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Lachnostylis hirta *(L. f.) Muell. Arg.*	2	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Leidesia procumbens *(L.) Prain*	12	5	1 0 1 1 1 0 0 0 0 0 0 0 0 1
Macaranga capensis *(Baill.) Benth. ex Sim*	1	3	0 0 0 0 0 1 1 0 1 0 0 0 0 0
Margaritaria discoidea *(Baill.) Webster*			
subsp. discoidea	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
subsp. nitida *(Pax) Webster*	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Micrococca capensis *(Baill.) Prain*	3	2	0 0 0 0 0 0 1 1 0 0 0 0 0 0
Phyllanthus maderaspatensis *L.*	3	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Phyllanthus myrtaceus *Sond.*	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Phyllanthus reticulatus *Poir.*	3	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Phyllanthus verrucosus *Thunb.*	3	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Sapium ellipticum *(Hochst.) Pax*	1	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Sapium integerrimum *(Hochst.) J. Leonard*	3	3	0 0 0 0 0 0 0 1 1 1 0 0 0 0
Securinega virosa *(Roxb. ex Willd.) Pax & K. Hoffm.*	3	2	0 0 0 0 0 0 0 0 0 0 0 1 1 0
Sphaerostylis natalensis *(Sond.) Croizat*	6	1	0 0 0 0 0 0 0 0 0 0 0 0 0 1
Spirostachys africana *Sond.*	2	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Suregada africana *(Sond.) Kuntze*	2	7	0 0 0 1 1 1 1 1 1 1 0 0 0 0
Suregada procera *(Prain) Croizat*	2	2	0 0 0 0 0 0 1 0 0 0 0 0 0 1
Suregada zanzibariensis *Baill.*	3	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Synadenium cupulare *(Boiss.) L.C. Wheeler*	12	1	0 0 0 0 0 0 0 1 0 0 0 0 0 0
Tragia sp.	6	2	0 0 1 0 0 0 1 0 0 0 0 0 0 0
Tragia durbanensis *Kuntze*	6	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Tragia meyeriana *Muell. Arg.*	6	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Tragia rupestris *Sond.*	6	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0

Taxon	GF	Fre	FOREST: P G S A E T U H R M C S M N / e v o m l r m a i l a a a e / n b c a c m t w b c p b k t
FABACEAE 43, 79, 1.8			
Abrus laevigatus *E. Mey.*	3	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Abrus precatorius *L.*	3	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Acacia ataxacantha *DC.*	3	4	0 0 0 0 0 0 1 0 0 0 0 1 1 1
Acacia karroo *Hayne*	2	7	0 0 0 1 1 0 1 0 1 1 0 0 1 1
Acacia kraussiana *Meisn. ex Benth.*	5	3	0 0 0 0 0 0 0 1 1 1 0 0 0 0
Acacia schweinfurthii *Brenan & Exell*	5	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Albizia adianthifolia *(Schumach.) W.F. Wight*	1	3	0 0 0 0 0 0 0 1 1 1 0 0 0 0
Argyrolobium pilosum *Harv.*	3	2	0 0 0 1 0 1 0 0 0 0 0 0 0 0
Argyrolobium rupestre *(Eckl. & Zeyh.) Walp.*	3	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Argyrolobium speciosum *Eckl. & Zeyh.*	12	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Argyrolobium tomentosum *(Andr.) Druce*	3	6	0 0 1 1 0 1 1 0 0 0 0 0 1 1
Baphia racemosa *(Hochst.) Bak.*	1	1	0 0 0 0 0 0 0 1 0 0 0 0 0 0
Bauhinia galpinii *N.E. Br.*	3	3	0 0 0 0 0 0 0 0 0 0 0 1 1 1
Bauhinia tomentosa *L.*	3	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Calpurnia aurea *(Ait.) Benth.*	3	7	0 0 1 1 0 1 0 0 1 0 0 1 1 1
Calpurnia sp.	3	1	0 0 0 0 0 0 0 0 0 0 0 0 1 0
Canavalia bonariensis *Lindl.*	5	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Cassia petersiana *Bolle*	3	2	0 0 0 0 0 0 0 0 0 0 0 1 0 1
Cordyla africana *Lour.*	1	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Craibia zimmermannii *(Harms) Dunn*	1	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Crotalaria capensis *Jacq.*	3	5	0 0 1 0 0 0 0 0 1 1 0 1 1 0
Crotalaria recta *Steud. ex A. Rich.*	3	2	0 0 0 0 0 0 0 0 0 0 0 1 1 0
Dalbergia armata *E. Mey.*	5	9	0 0 0 0 1 1 1 1 1 1 0 1 1 1
Dalbergia multijuga *E. Mey.*	3	2	0 0 0 0 0 1 1 0 0 0 0 0 0 0
Dalbergia nitidula *Bak.*	3	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Dalbergia obovata *E. Mey.*	5	3	0 0 0 0 1 0 1 0 0 1 0 0 0 0
Desmodium repandum *(Vahl) DC.*	3	7	0 0 1 1 0 0 0 0 1 0 1 1 1 1
Desmodium setigerum *(E. Mey.) Benth. ex Harv.*	3	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Dichrostachys cinerea *(L.) Wight & Arn.*	2	3	0 0 0 0 0 0 0 1 1 1 0 0 0 0
Dipogon lignosus *(L.) Verdc.*	6	4	1 1 1 0 1 0 0 0 0 0 0 0 0 0
Dolichos peglerae *L. Bol.*	6	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Dumasia villosa *DC.*	6	4	0 0 1 0 0 0 0 0 0 0 1 1 0 1
Entada rheedii *Spreng.*	5	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Entada spicata *(E. Mey.) Druce*	5	6	0 0 0 1 0 0 1 0 1 0 0 1 1 1
Eriosema salignum *E. Mey.*	12	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Erythrina caffra *Thunb.*	1	5	0 0 1 1 1 1 0 0 0 1 0 0 0 0
Erythrina lysistemon *Hutch.*	1	6	0 0 0 0 0 0 1 0 1 1 0 1 1 1
Flemingia grahamiana *Wight & Arn.*	12	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Glycine javanica *L.*	6	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Indigofera garkeana *Vatke*	3	1	0 0 0 0 0 0 0 0 0 0 0 0 1 0
Indigofera micrantha *E. Mey.*	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Indigofera natalensis *H. Bol.*	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Indigofera spicata *Forssk.*	3	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Indigofera swaziensis *H. Bol.*	3	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Lotononis wyliei *J.M. Wood*	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Macrotyloma axillare *(E. Mey.) Verdc.*	4	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Millettia grandis *(E. Mey.) Skeels*	2	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Mucunia coriacea *Bak.*	6	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Neonotonia wightii *(Arn.) Lackey*	6	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Otholobium caffrum *(Eckl. & Zeyh.) C.H. Stirton*	3	1	0 0 0 0 0 0 0 0 0 0 1 0 0 0
Otholobium fruticans *(L.) C.H. Stirton*	3	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Pearsonia aristata *(Schinz) Duemmer*	12	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Pearsonia sessilifolia *(Harv.) Duemmer*	12	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Podalyria velutina *Burch.*	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Pseudarthra hookeri *Wight & Arn.*	12	2	0 0 0 0 0 0 0 0 1 0 0 1 0 0
Psoralea pinnata *L.*	3	6	0 1 1 1 0 1 1 0 0 0 0 0 1 0
Rhynchosia capensis *(Burm.) Schinz*	3	1	1 0 0 0 0 0 0 0 0 0 0 0 0 0

	GF	Fre	FOREST P G S A E T U H R M C S M N e v o m l r m a i l a a a e n b c a c m t w b c p b k t
Rhynchosia caribaea (Jacq.) DC.	6	10	0 0 1 1 1 1 1 0 1 0 1 1 1 1
Rhynchosia hirta (Andr.) Meikle & Verdc.	6	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Rhynchosia komatiensis Harms	3	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Rhynchosia monophylla Schltr.	6	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Rhynchosia ovata Wood & Evans	3	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Rhynchosia stenodon Bak. f.	6	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Rhynchosia thorncroftii (Bak. f.) Burtt Davy	3	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Rhynchosia totta (Thunb.) DC.	6	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Schotia brachypetala Sond.	1	3	0 0 0 0 0 1 0 0 1 0 0 0 1 0
Schotia afra (L.) Thunb. var. afra	1	2	0 0 1 0 1 0 0 0 0 0 0 0 0 0
Schotia latifolia Jacq.	1	3	0 0 1 1 1 0 0 0 0 0 0 0 0 0
Sophora inhambanensis Klotzsch	3	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Sophora tomentosa L.	3	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Sphenostylis marginata E. Mey.	3	3	0 0 0 0 0 0 1 0 1 0 0 1 0 0
Tephrosia pondoensis (Codd) Shrire	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Tephrosia shiluwanensis Schinz	3	2	0 0 0 0 0 0 1 0 0 0 0 1 0 0
Teramnus labialis (L. f.) Spreng.	6	1	0 0 0 0 0 0 0 0 0 0 0 0 0 1
Virgilia divaricata Adamson	1	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Virgilia oroboides (Berg.) Salter			
subsp. ferruginea B.-E. van Wyk	1	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
subsp. oroboides	1	2	1 1 0 0 0 0 0 0 0 0 0 0 0 0
Umtiza listeriana Sim	2	1	0 0 0 0 1 0 0 0 0 0 0 0 0 0
Zornia capensis Pers.	12	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
FLACOURTIACEAE 11, 21, 1.9			
Aphloia theiformis (Vahl) Benn.	3	1	0 0 0 0 0 0 0 0 0 0 0 0 0 1
Casearia gladiiformis Mast.	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Dovyalis caffra (Hook. f. & Harv.) Hook. f.	2	3	0 0 0 0 1 0 0 0 0 1 0 0 1 0
Dovyalis longispina (Harv.) Warb.	2	3	0 0 0 0 0 0 0 1 1 1 0 0 0 0
Dovyalis lucida Sim	2	6	0 0 1 1 0 1 1 0 1 0 0 1 0 0
Dovyalis rhamnoides (Burch. ex DC.) Harv.	3	8	0 0 1 0 1 1 1 1 1 1 0 0 1 0
Dovyalis rotundifolia (Thunb.) Thunb. & Harv.	2	3	0 0 1 1 1 0 0 0 0 0 0 0 0 0
Dovyalis sp.	3	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Dovyalis zeyheri (Sond.) Warb.	2	5	0 0 0 1 0 1 0 0 0 0 1 1 0 1
Gerrardina foliosa Oliv.	2	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Homalium dentatum (Harv.) Warb.	1	3	0 0 0 0 0 0 1 0 0 0 0 0 1 1
Homalium rufescens Benth.	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Kiggelaria africana L.	1	10	1 1 1 1 0 1 1 1 0 0 0 1 1 1
Pseudoscolopia polyantha Gilg	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Rawsonia lucida Harv. & Sond.	3	7	0 0 0 0 0 1 1 0 1 1 0 1 1 1
Scolopia mundii (Eckl. & Zeyh.) Warb.	1	10	1 1 1 1 0 1 1 0 1 1 1 1 0 0
Scolopia oreophila (Sleum.) Killick	2	1	0 0 0 0 0 1 0 0 0 0 0 0 0 0
Scolopia zeyheri (Nees) Harv.	1	8	0 0 1 1 1 1 1 0 1 1 0 0 0 1
Trimeria grandifolia (Hochst.) Warb.	2	10	0 0 1 1 1 1 1 0 1 0 1 1 1 1
Trimeria trinervis Harv.	2	3	0 0 0 1 1 1 0 0 0 0 0 0 0 0
Xylotheca kraussiana Hochst.	3	4	0 0 0 0 0 1 0 1 1 1 0 0 0 0
FLAGELLARIACEAE 1, 1, 1.0			
Flagellaria guineensis Schumach.	6	5	0 0 0 0 1 0 1 1 1 1 0 0 0 0
GENTIANACEAE 2, 3, 1.5			
Chironia laxa Gilg	12	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Chironia peglerae Prain	12	1	0 0 0 0 0 0 0 0 0 0 1 0 0 0
Neurotheca schlechteri Gilg ex Bak. & N.E. Br.	12	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
GERANIACEAE 3, 6, 2.0			
Geranium ornithopodon Eckl. & Zeyh.	12	3	0 0 0 1 0 0 1 0 1 0 0 0 0 0
Monsonia natalensis Knuth	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Pelargonium alchemilloides (L.) L'Hérit.	4	2	0 0 0 1 0 0 0 0 1 0 0 0 0 0
Pelargonium cordifolium (Cav.) Curtis	4	2	0 0 1 1 0 0 0 0 0 0 0 0 0 0
Pelargonium papilionaceum (L.) L'Hérit.	4	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Pelargonium zonale (L.) L'Hérit.	4	2	0 0 1 1 0 0 0 0 0 0 0 0 0 0
GESNERIACEAE 1, 12, 12.0			
Streptocarpus confusus Hilliard	12	1	0 0 0 0 0 0 0 0 0 0 0 0 1 0
Streptocarpus cyaneus S. Moore	12	2	0 0 0 0 0 0 0 0 0 0 0 1 1 0
Streptocarpus gardenii Hook.	12	1	0 0 0 0 0 0 0 0 0 0 1 0 0 0
Streptocarpus haygarthii N.E. Br. ex C.B. Cl.	12	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Streptocarpus micranthus C.B. Cl.	12	1	0 0 0 0 0 0 0 0 0 0 0 0 1 0
Streptocarpus parviflorus Hook. f.	12	2	0 0 0 0 0 0 0 0 0 0 0 0 1 1
Streptocarpus polyanthus Hook.	12	2	0 0 0 0 0 0 1 0 0 0 0 1 0 0
Streptocarpus porphyrostachys Hilliard	12	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Streptocarpus primulifolius Gand.	12	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Streptocarpus pusillus Harv. ex C.B. Cl.	12	1	0 0 0 0 0 0 0 0 0 0 1 0 0 0
Streptocarpus rexii (Hook.) Lindl.	12	4	0 0 1 1 1 1 0 0 0 0 0 0 0 0
Streptocarpus wilmsii Engl.	12	1	0 0 0 0 0 0 0 0 0 0 0 0 1 0
GLEICHENIACEAE 2, 3, 1.5			
Dicranopteris linearis (Burm. f.) Underw.	8	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Gleichenia polypodioides (L.) J.E. Sm.	8	6	1 1 1 1 0 0 1 0 0 0 0 0 1 0
Gleichenia umbraculifera (Kunze) T. Moore	8	2	0 0 0 0 0 1 0 0 0 0 1 0 0 0
GREYIACEAE 1, 1, 1.0			
Greyia radlkoferi Szyszyl.	2	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
HALORAGACEAE 1, 1, 1.0			
Laurembergia repens Berg.	12	4	0 0 1 1 0 0 1 0 0 0 0 0 0 1
HAMAMELIDACEAE 1, 3, 3.0			
Trichocladus crinitus (Thunb.) Pers.	3	3	0 1 1 0 0 0 1 0 0 0 0 0 0 0
Trichocladus ellipticus Eckl. & Zeyh. ex Walp.	3	6	0 0 1 1 1 1 1 0 0 0 0 0 0 1
Trichocladus grandiflorus Oliv.	3	3	0 0 0 0 0 0 1 0 0 0 0 1 1 0
HYMENOPHYLLACEAE 2, 6, 3.0			
Hymenophyllum capense Schrad.	9	3	1 0 1 0 0 0 0 0 0 0 0 0 1 0
Hymenophyllum marlothii Brause	9	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Hymenophyllum peltatum (Poir.) Desv.	9	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Hymenophyllum polyanthos Swartz	9	1	0 0 0 0 0 0 0 0 0 0 0 0 1 0
Hymenophyllum tunbridgense (L.) J.E. Sm.	9	4	1 1 1 0 0 0 0 0 0 0 0 0 1 0
Trichomanes pyxidiferum L.	9	7	0 0 1 1 0 0 1 0 0 0 1 1 1 1
HYPOXIDACEAE 1, 3, 3.0			
Hypoxis membranacea Bak.	10	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Hypoxis rooperi S. Moore	10	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Hypoxis sp.	10	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
ICACINACEAE 3, 6, 2.0			
Apodytes dimidiata E. Mey. ex Arn.	1	13	1 1 1 1 1 1 1 0 1 1 1 1 1 1
Apodytes sp. nov.	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Cassinopsis ilicifolia (Hochst.) Kuntze	3	6	0 1 1 1 0 1 0 0 0 0 1 1 0 0
Cassinopsis tinifolia Harv.	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Pyrenacantha grandiflora Baill.	5	2	0 0 0 0 0 0 0 0 0 0 0 0 1 1
Pyrenacantha scandens Planch. ex Harv.	6	4	0 1 1 0 0 0 0 0 1 1 0 0 0 0
ILLECEBRACEAE 1, 3, 3.0			
Silene bellidioides Sond.	12	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Silene burchellii Otth	12	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Silene undulata Ait.	12	2	0 0 1 1 0 0 0 0 0 0 0 0 0 0
IRIDACEAE 7, 8, 1.1			
Anomatheca laxa (Thunb.) Goldbl.	10	2	0 0 0 0 0 0 0 0 1 0 0 0 1 0
Aristea ecklonii Bak.	10	4	0 0 0 1 0 0 1 0 0 0 0 0 1 1

FOREST

	GF	Fre	P e n	G v b	S o c	A m a	E l c	T r m	U m t	H a w	R i b	M l c	C a p	S a b	M a k	N e t
Aristea ensifolia *Muir*	10	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0
Chasmanthe aethiopica *(L.) N.E. Br.*	10	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0
Crocosmia aurea *Planch.*	10	3	0	0	0	0	0	1	0	0	1	0	0	1	0	0
Dietes iridioides *(L.) Sweet ex Klatt*	10	11	0	1	1	1	1	1	1	0	1	0	1	1	1	1
Gladiolus sempervirens *G.J. Lewis*	10	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Melasphaerula ramosa *(L.) N.E. Br.*	10	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
JUNCACEAE 1, 2, 2.0																
Juncus capensis *Thunb.*	11	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0
Juncus lomatophyllus *Spreng.*	11	6	0	1	1	1	0	0	0	0	1	0	0	0	1	1
LAMIACEAE 10, 33, 3.3																
Endostemon obtusifolius *(E. Mey. ex Benth.) N.E. Br.*	12	5	0	0	0	0	0	0	1	0	1	0	0	1	1	1
Leonotis leonurus *(L.) R. Br.*	4	4	1	0	1	1	0	0	0	0	0	0	0	0	1	0
Leonotis ocymifolia *(Burm. f.) Iwarsson* var. raineriana *(Visiani) Iwarsson*	4	2	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Leucas glabrata *(Vahl) Sm.*	4	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Plectranthus ambiguus *(H. Bol.) Codd*	4	2	0	0	0	1	0	0	1	0	0	0	0	0	0	0
Plectranthus ciliatus *E. Mey. ex Benth.*	12	3	0	0	1	1	0	0	1	0	0	0	0	0	0	0
Plectranthus dolichopodus *Briq.*	12	2	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Plectranthus ecklonii *Benth.*	12	2	0	0	0	1	0	0	1	0	0	0	0	0	0	0
Plectranthus fruticosus *L'Hérit.*	4	6	0	1	1	1	0	0	0	0	0	0	0	1	1	1
Plectranthus grandidentatus *Guerke*	4	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Plectranthus hadiensis *(Forssk.) Schweinf. ex Spreng.*	12	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Plectranthus hereroensis *Engl.*	12	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Plectranthus hilliardiae *Codd*	12	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Plectranthus laxiflorus *Benth.*	12	5	0	0	1	1	0	0	0	0	0	0	0	1	1	1
Plectranthus madagascariensis *(Pers.) Benth.*	12	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Plectranthus rubropunctatus *Codd*	12	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Plectranthus saccatus Benth.																
var. saccatus	12	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
var. longitubus *Codd*	12	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Plectranthus strigosus *Benth.*	12	3	0	0	0	1	1	0	1	0	0	0	0	0	0	0
Plectranthus swynnertonii *S. Moore*	12	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Plectranthus verticillatus *(L. f.) Druce*	12	5	0	0	1	1	0	0	0	0	1	0	0	1	0	1
Plectranthus zuluensis *T. Cooke*	12	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Pycnostachys reticulata *(E. Mey.) Benth.*	3	5	0	0	0	0	0	0	1	0	1	0	0	1	1	1
Salvia scabra *L. f.*	12	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Satureja reptans *Killick*	12	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Solenostemon latifolius *(Hochst. ex Benth.) J.K. Morton*	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Stachys aethiopica *L.*	12	9	1	1	1	1	1	0	1	0	1	1	0	0	1	0
Stachys caffra *E. Mey. ex Benth.*	12	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Stachys graciliflora *Presl*	12	3	0	0	1	1	0	0	1	0	0	0	0	0	0	0
Stachys grandifolia *E. Mey. ex Benth.*	12	3	0	0	0	1	0	0	0	0	0	0	0	1	0	1
Stachys scabrida *Skan*	12	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Stachys thunbergii *Benth.*	12	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Tetradenia brevispicata *(N.E. Br.) Codd*	3	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
LAURACEAE 4, 9, 2.3																
Cassytha ciliolata *Nees*	9	2	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Cryptocarya latifolia *Sond.*	2	2	0	0	0	0	0	1	1	0	0	0	0	0	0	0
Cryptocarya liebertiana *Engl.*	1	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Cryptocarya myrtifolia *Stapf.*	2	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Cryptocarya woodii *Engl.*	2	6	0	0	0	1	1	1	1	0	1	0	0	0	1	0
Cryptocarya wyliei *Stapf*	3	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Dahlgrenodendron natalense *(J.H. Ross) J.J.M. v.d. Merwe & Van Wyk*	2	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Ocotea bullata *(Burch.) Baill.*	1	6	1	1	1	1	0	1	0	0	0	0	1	0	0	0
Ocotea kenyensis *(Chiov.) Robyns*	1	3	0	0	0	0	0	0	0	0	0	0	0	1	1	1
LECYTHIDACEAE 1, 1, 1.0																
Barringtonia racemosa *(L.) Roxb.*	2	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
LILIACEAE 22, 42, 1.9																
Agapanthus praecox *Willd.*	10	4	0	0	1	1	0	1	1	0	0	0	0	0	0	0
Aloe arborescens *Mill.*	4	7	0	0	1	1	0	0	1	0	0	0	1	1	1	1
Aloe aristata *Haw.*	4	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Aloe ciliaris *Haw.*	4	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Aloe longibracteata *Pole Evans*	4	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Aloe umfoloziensis *Reynolds*	4	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Anthericum saundersiae *Bak.*	10	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Behnia reticulata *(Thunb.) Didr.*	6	8	0	0	0	1	1	1	1	1	0	0	0	1	1	1
Bulbine latifolia *(L. f.) Roem. & Schult.*	10	3	0	0	1	1	0	0	1	0	0	0	0	0	0	0
Chlorophytum comosum *(Thunb.) Jacq.*	10	10	0	1	1	1	1	1	1	0	1	0	1	0	1	1
Chlorophytum modestum *Bak.*	10	2	0	0	0	0	0	1	0	1	0	0	0	0	0	0
Dracaena hookeriana *K. Koch*	4	8	0	0	0	1	1	0	1	1	1	1	0	1	1	0
Drimiopsis maculata *Lindl.*	10	2	0	0	0	0	0	0	1	0	1	0	0	0	0	0
Drimiopsis maxima *Bak.*	10	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Eriospermum natalense *Bak.*	10	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Eucomis bicolor *Bak.*	10	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Eucomis pole-evansii *N.E. Br.*	10	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Frullania sp.	10	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Gasteria acinacifolia *(Jacq.) Haw.*	10	2	0	0	1	0	0	0	1	0	0	0	0	0	0	0
Gloriosa superba *L.*	6	4	0	0	0	0	0	0	0	0	1	1	0	0	1	1
Ledebouria cooperi *(Hook. f.) Jessop*	10	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Littonia modesta *Hook.*	6	3	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Myrsiphyllum asparagoides *(L.) Willd.*	6	9	0	1	1	1	1	0	0	0	0	1	1	1	1	1
Myrsiphyllum scandens *(Thunb.) Oberm.*	6	5	1	1	1	0	0	0	0	0	0	0	1	0	1	0
Myrsiphyllum volubile *(Thunb.) Oberm.*	6	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Ornithogalum dubium *Houtt.*	10	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Ornithogalum graminifolium *Thunb.*	10	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0
Ornithogalum longibracteatum *Jacq.*	10	4	0	1	1	1	1	0	0	0	0	0	0	0	0	0
Protasparagus aethiopicus *(L.) Oberm.*	6	4	1	1	1	1	0	0	0	0	0	0	0	0	0	0
Protasparagus africanus *(Lam.) Oberm.*	12	4	1	0	0	1	1	0	0	0	0	0	0	1	0	0
Protasparagus angusticladus *(Jessop) Oberm.*	6	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Protasparagus falcatus *(L.) Oberm.*	6	7	0	0	0	0	0	0	1	1	1	1	0	1	1	1
Protasparagus macowanii *(Bak.) Oberm.*	4	4	0	1	1	1	1	0	0	0	0	0	0	0	0	0
Protasparagus nodulosus *Oberm.* ms.	12	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Protasparagus racemosus *(Willd.) Oberm.*	4	2	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Protasparagus setaceus *(Kunth) Oberm.*	6	11	0	1	1	1	1	0	1	1	1	1	0	1	1	1
Protasparagus sp. (A. virgatus *Bak.*)	6	4	0	0	0	0	0	0	1	0	1	0	0	1	0	1
Protasparagus suaveolens *(Burch.) Oberm.*	6	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0
Sansevieria hyacinthoides *(L.) Druce*	12	4	0	0	0	0	1	0	0	0	1	0	0	0	1	0
Smilax kraussiana *Meisn.*	5	6	0	0	0	0	0	0	1	0	1	1	0	1	1	1
Trachyandra ciliata *(L. f.) Kunth*	10	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Tulbaghia violacea *Harv.*	10	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
LINDSAEACEAE 1, 1, 1.0																
Lindsaea ensifolia *Swartz*	8	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
LOBELIACEAE 3, 8, 2.7																
Cyphia digitata *(Thunb.) Willd.*	6	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Cyphia heterophylla *Presl ex Eckl. & Zeyh.*	6	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0

	GF	Fre	FOREST P G S A E T U H R M C S M N e v o m l r m a i l a a a e n b c a c m t w b c p b k t
Cyphia sylvatica *Eckl.* var. salicifolia *(Presl) E. Wimm.*	6	1	0 0 0 0 1 0 0 0 0 0 0 0 0 0
Lobelia anceps *L. f.*	12	2	0 0 1 1 0 0 0 0 0 0 0 0 0 0
Lobelia cuneifolia *Link & Otto*	12	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Lobelia patula *L. f.*	12	4	0 1 1 1 0 0 0 0 0 0 1 0 0 0
Lobelia pteropoda *(Presl) A. DC.*	12	1	0 0 0 0 0 0 0 0 0 0 0 0 1 0
Monopsis stellarioides *(Presl) Urb.*	12	2	0 0 0 1 0 0 0 0 0 0 0 0 1 0
LOGANIACEAE 4, 13, 3.3			
Anthocleista grandiflora *Gilg*	1	3	0 0 0 0 0 0 0 0 0 0 0 1 1 1
Buddleja auriculata *Benth.*	3	4	0 0 0 1 0 1 0 0 0 0 1 1 0 0
Buddleja dysophylla *(Benth.) Radlk.*	3	2	0 0 0 1 0 1 0 0 0 0 0 0 0 0
Buddleja saligna *Willd.*	2	6	0 1 1 1 1 1 1 0 0 0 0 0 0 0
Buddleja salviifolia *(L.) Lam.*	3	7	0 1 1 1 0 1 0 0 0 0 1 0 1 1
Nuxia congesta *R. Br. ex Fresen.*	2	4	0 0 0 0 1 0 1 0 0 0 0 0 1 1
Nuxia floribunda *Benth.*	1	8	0 1 1 1 1 1 1 0 0 0 0 0 1 1
Strychnos decussata *(Pappe) Gilg*	1	7	0 0 1 0 1 0 1 1 1 1 0 0 1 0
Strychnos henningsii *Gilg*	2	5	0 0 0 1 0 1 1 1 0 1 0 0 0 0
Strychnos madagascariensis *Poir.*	2	4	0 0 0 0 0 0 1 0 1 1 0 0 0 0
Strychnos mitis *S. Moore*	2	4	0 0 0 0 1 0 1 0 0 1 0 0 0 1
Strychnos spinosa *Lam.*	3	4	0 0 0 0 0 0 1 0 1 1 0 1 0 0
Strychnos usambarensis *Gilg*	2	3	0 0 0 0 0 1 1 1 0 0 0 0 0 0
LOMARIOPSIDACEAE 1, 2, 2.0			
Elaphoglossum acrostichoides *(Hook. & Grev.) Schelpe*	9	5	1 0 1 1 0 0 0 0 0 0 0 0 1 1
Elaphoglossum angustatum *(Schrad.) Hieron.*	9	5	0 1 1 0 0 0 1 0 0 0 1 0 1 0
LORANTHACEAE 3, 6, 2.0			
Erianthemum dregei *(Eckl. & Zeyh.) V. Tieghem*	3	4	0 0 0 0 0 0 1 0 1 0 0 1 0 1
Helixanthera woodii *(Schltr. & Krause) Danser*	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Tapinanthus kraussianus *(Meisn.) V. Tieghem*	3	4	0 0 0 0 0 0 1 1 1 1 0 0 0 0
Tapinanthus natalitius *(Meisn.) Danser* subsp. zeyheri *(Harv.) Wiens*	3	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Tapinanthus prunifolius *(E. Mey. ex Harv.) V. Tieghem*	5	1	0 0 0 1 0 0 0 0 0 0 0 0 0 0
Tapinanthus sp.	3	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
LYCOPODIACEAE 1, 6, 6.0			
Lycopodium cernuum *L.*	8	4	0 0 1 0 0 0 1 0 0 0 0 0 1 1
Lycopodium clavatum *L.*	8	4	0 0 1 1 0 0 0 0 0 0 0 0 1 1
Lycopodium gnidioides *L. f.*	9	7	0 1 1 1 0 1 1 0 0 0 0 1 1 0
Lycopodium ophioglossoides *Lam.*	9	1	0 0 0 0 0 0 0 0 0 0 0 0 1 0
Lycopodium saururus *Lam.*	8	1	0 0 0 0 0 0 0 0 0 0 1 0 0 0
Lycopodium verticillatum *L. f.*	9	5	0 0 0 1 0 1 1 0 0 0 1 0 1 0
LYTHRACEAE 1, 1, 1.0			
Rhynchocalyx lawsonioides *Oliv.*	2	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
MALPIGHIACEAE 2, 2, 2.0			
Acridocarpus natalitius *Juss.*	5	3	0 0 0 0 0 0 1 1 1 0 0 0 0 0
Sphedamnocarpus galphimiifolius *(Juss.) Szyszyl.*	6	3	0 0 0 0 0 0 0 0 0 0 0 1 1 1
MALVACEAE 5, 15, 3.0			
Abutilon grantii *A. Meeuse*	12	1	0 0 0 0 0 0 0 1 0 0 0 0 0 0
Abutilon sonneratianum *(Cav.) Sweet*	12	5	0 0 1 1 1 0 0 0 1 0 0 0 0 1
Hibiscus calyphyllus *Cav.*	4	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Hibiscus diversifolius *Jacq.*	4	2	0 0 1 0 0 0 0 0 1 0 0 0 0 0
Hibiscus ludwigii *Eckl. & Zeyh.*	12	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Hibiscus pedunculatus *L. f.*	4	4	0 0 1 0 0 0 1 0 0 0 0 0 1 1
Hibiscus surattensis *L.*	12	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Hibiscus tiliaceus *L.*	2	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Hibiscus trionum *L.*	12	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Pavonia columella *Cav.*	12	5	0 0 1 1 0 0 1 0 0 0 0 1 1 0
Pavonia praemorsa *(L. f.) Cav.*	12	1	0 0 0 0 1 0 0 0 0 0 0 0 0 0
Sida dregei *Burtt Davy*	12	3	0 0 1 0 0 0 1 0 0 0 0 0 0 1
Sida rhombifolia *L.*	12	3	0 0 0 1 0 0 1 0 1 0 0 0 0 0
Sida ternata *L. f.*	12	3	0 0 1 1 0 0 0 0 0 0 0 0 0 1
Thespesia acutiloba *(Bak. f.) Exell & Mendonça*	12	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
MARATTIACEAE 1, 1, 1.0			
Marattia fraxinea *J.E. Sm. ex J.F. Gmel.*	7	6	0 0 1 0 0 1 1 0 0 0 0 1 1 1
MELASTOMACEAE 1, 2, 2.0			
Memecylon bachmannii *Engl.*	2	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Memecylon natalense *Markg.*	2	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
MELIACEAE 3, 6, 2.0			
Ekebergia capensis *Sparrm.*	1	11	0 0 1 1 1 1 1 0 1 1 1 1 1 1
Ekebergia pterophylla *(C. DC.) Hofmeyr*	2	4	0 0 0 0 0 1 1 0 1 0 0 1 1 0
Trichilia dregeana *Sond.*	1	4	0 0 0 0 0 1 1 0 1 0 0 0 0 1
Trichilia emetica *Vahl*	1	4	0 0 0 0 0 0 0 0 1 1 0 0 1 1
Turraea floribunda *Hochst.*	2	4	0 0 0 0 0 0 1 1 1 1 0 0 0 0
Turraea obtusifolia *Hochst.*	2	3	0 0 0 0 1 0 0 1 1 0 0 0 0 0
MELIANTHACEAE 2, 5, 2.5			
Bersama lucens *(Hochst.) Szyszyl.*	2	5	0 0 0 0 0 1 1 1 1 1 0 0 0 0
Bersama swinnyi *Phill.*	2	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Bersama transvaalensis *Turrill*	2	3	0 0 0 0 0 0 0 0 0 0 0 1 1 1
Bersama tysoniana *Oliv.*	2	4	0 0 0 0 0 1 1 0 0 0 0 1 1 0
Melianthus villosus *H. Bol.*	4	1	0 0 0 0 0 0 0 0 0 0 1 0 0 0
MENISPERMACEAE 3, 5, 1.7			
Cissampelos capensis *L. f.*	6	2	1 0 1 0 0 0 0 0 0 0 0 0 0 0
Cissampelos hirta *Klotzsch*	6	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Cissampelos torulosa *E. Mey. ex Harv.*	6	9	0 0 1 1 1 1 0 0 1 1 0 1 1 1
Stephania abyssinica *(Dill. & Rich.) Walp.*	6	2	0 0 0 0 0 0 0 0 0 0 0 1 1 0
Tinospora caffra *(Miers) Troupin*	6	3	0 0 0 0 0 0 0 1 1 1 0 0 0 0
MESEMBRYANTHEMACEAE 4, 6, 1.5			
Aptenia cordifolia *(L. f.) Schwant.*	12	3	0 0 1 1 1 0 0 0 0 0 0 0 0 0
Carpobrotus dimidiatus *(Haw.) L. Bol.*	12	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Carpobrotus edulis *(L.) L. Bol.*	12	1	0 0 0 0 1 0 0 0 0 0 0 0 0 0
Delosperma calycinum *L. Bol.*	12	1	0 0 0 0 1 0 0 0 0 0 0 0 0 0
Delosperma sp.	12	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Mesembryanthemum aitonis *Jacq.*	12	1	0 0 0 0 1 0 0 0 0 0 0 0 0 0
MORACEAE 3, 14, 4.7			
Bosquiea phoberos *Baill.*	1	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Ficus bizanae *Hutch. & Burtt Davy*	2	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Ficus burtt-davyi *Hutch.*	3	8	0 0 1 1 1 1 1 1 1 1 0 0 0 0
Ficus capreifolia *Del.*	5	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Ficus craterostoma *Warb. ex Mildbr. & Burr.*	1	5	0 0 0 0 0 1 1 0 1 0 0 0 1 1
Ficus ingens *(Miq.) Miq.*	1	3	0 0 0 0 0 1 0 0 1 0 1 1 0 0
Ficus lutea *Vahl*	2	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Ficus natalensis *Hochst.*	1	3	0 0 0 0 1 0 0 0 1 1 0 0 0 0
Ficus polita *Vahl*	1	2	0 0 0 0 0 0 0 1 0 1 0 0 0 0
Ficus sur *Forssk.*	1	8	0 0 1 1 0 1 1 0 1 0 0 1 1 1
Ficus sycomorus *L.*	1	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Ficus thonningii *Blume*	2	2	0 0 0 0 0 0 1 0 0 0 0 1 0 0
Ficus trichopoda *Bak.*	1	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Morus mesozygia *Stapf*	1	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
MUSACEAE 1, 1, 1.0			
Ensete ventricosum *(Welw.) E.E. Cheesm.*	4	1	0 0 0 0 0 0 0 0 0 0 0 0 0 1
MYRICACEAE 1, 3, 3.0			
Myrica pilulifera *Rendle*	3	4	0 0 0 0 0 1 0 0 0 0 1 1 1 0
Myrica quercifolia *L.*	3	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Myrica serrata *Lam.*	3	8	0 1 1 1 0 0 1 0 1 0 1 1 1 0

	GF	Fre	FOREST P G S A E T U H R M C S M N / e v o m l r m a i l a a a e / n b c a c m t w b c p b k t
MYRSINACEAE 4, 4, 1.0			
Embelia ruminata *(E. Mey. ex A. DC.) Mez*	5	3	0 0 0 0 0 0 1 1 1 0 0 0 0 0
Maesa lanceolata *Forssk.*	2	6	0 0 0 1 0 0 1 0 1 0 0 1 1 1
Myrsine africana *L.*	3	9	1 0 1 1 0 1 1 0 0 0 1 1 1 1
Rapanea melanophloeos *(L.) Mez*	1	11	1 1 1 1 0 1 1 0 1 0 1 1 1 1
MYRTACEAE 3, 13, 4.3			
Eugenia albanensis *Sond.*	1	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Eugenia capensis *(Eckl. & Zeyh.) Harv. ex Sond.*	2	4	0 0 0 0 1 0 0 1 1 1 0 0 0 0
Eugenia erythrophylla *Strey*	2	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Eugenia gueinzii *Sond.*	2	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Eugenia natalitia *Sond.*	2	7	0 0 0 0 0 1 1 0 1 1 0 1 1 1
Eugenia umtamvunensis *Van Wyk*	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Eugenia verdoorniae *Van Wyk*	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Eugenia zeyheri *Harv.*	2	2	0 0 0 1 1 0 0 0 0 0 0 0 0 0
Eugenia zuluensis *Duemmer*	2	3	0 0 0 0 0 0 1 0 1 1 0 0 0 0
Heteropyxis natalensis *(Harv.*	2	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Syzygium cordatum *Hochst.*	1	8	0 0 1 0 1 0 1 0 1 1 0 1 1 1
Syzygium gerrardii *(Harv. ex Hook. f.) Burtt Davy*	1	4	0 0 0 0 0 0 1 0 0 0 0 1 1 1
Syzygium guineense *(Willd.) DC.*	2	3	0 0 0 0 0 0 0 0 1 0 0 0 1 1
NYCTAGINACEAE 2, 2, 2.0			
Commicarpus africanus *(Lour.) Dandy*	6	3	0 0 0 0 0 0 0 1 1 1 0 0 0 0
Pisonia aculeata *L.*	5	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
OCHNACEAE 1, 7, 7.0			
Ochna arborea *Burch. ex DC.*			
var. arborea	2	8	0 0 1 1 1 1 1 0 1 1 0 1 0 0
var. oconnorii *(Phill.) Du Toit*	2	2	0 0 0 0 0 0 0 0 0 0 0 0 1 1
Ochna gamostigmata *Du Toit*	3	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Ochna holstii *Engl.*	2	5	0 0 0 0 0 1 0 0 0 1 0 1 1 1
Ochna inermis *(Forssk.) Schweinf.*	2	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Ochna natalitia *(Meisn.) Walp.*	3	7	0 0 0 0 0 1 1 1 1 1 0 1 1 0
Ochna serrulata *(Hochst.) Walp.*	3	5	0 0 1 1 0 1 1 0 0 0 1 0 0 0
OLACACEAE 1, 2, 2.0			
Ximenia americana *L.*	3	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Ximenia caffra *Sond.*	3	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
OLEACEAE 4, 17, 4.3			
Chionanthus foveolata *(E. Mey.) Stearn*			
subsp. foveolata	2	8	1 1 1 1 1 1 0 0 0 0 0 1 1 0
subsp. major *(Verdoorn) Stearn*	2	1	0 0 0 0 0 0 0 0 0 0 0 0 1 0
subsp. tomentellus *(Verdoorn) Stearn*	2	2	0 0 1 0 0 0 1 0 0 0 0 0 0 0
Chionanthus peglerae *(C.H. Wr.) Stearn*	1	6	0 0 1 1 0 1 1 0 1 1 0 0 0 0
Jasminum abyssinicum *Hochst. ex DC.*	6	1	0 0 0 0 0 0 0 0 0 0 0 0 1 0
Jasminum angulare *Vahl*	6	2	0 0 1 0 1 0 0 0 0 0 0 0 0 0
Jasminum fluminense *Vell.*	6	1	0 0 0 0 0 0 0 0 0 0 0 0 1 0
Jasminum multipartitum *Hochst.*	6	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Jasminum streptopus *E. Mey.*			
var. streptopus	5	2	0 0 0 0 0 0 0 1 0 1 0 0 0 0
var. transvaalensis *(S. Moore) Verdoorn*	5	5	0 0 0 0 0 0 1 0 0 1 0 1 1 1
Olea capensis *L.*			
subsp. capensis	2	7	1 1 1 1 1 1 1 0 0 0 0 0 0 0
subsp. enervis *(Harv. ex C.H. Wr.) Verdoorn*	1	2	0 0 0 0 0 0 1 1 0 0 0 0 0 0
subsp. macrocarpa *(C.H. Wr.) Verdoorn*	1	12	1 1 1 1 0 1 1 1 1 1 0 1 1 1
Olea europaea *L.* subsp. africana *(Mill.) P.S. Green*	1	8	1 1 1 1 1 1 0 0 0 0 0 1 1 0
Olea exasperata *Jacq.*	3	2	0 0 1 0 1 0 0 0 0 0 0 0 0 0
Olea woodiana *Knobl.*	1	6	0 0 0 0 1 0 1 1 1 1 0 0 1 0
Schrebera alata *(Hochst.) Welw.*	3	3	0 0 0 0 0 0 1 0 0 0 0 1 1 0
OLINIACEAE 1, 3, 3.0			
Olinia emarginata *Burtt Davy*	1	2	0 0 0 0 0 1 0 0 0 0 1 0 0 0
Olinia radiata *J. Hofmeyr & Phill.*	3	3	0 0 0 0 0 1 1 0 0 1 0 0 0 0
Olinia ventosa *(L.) Cufod.*	1	7	1 1 1 1 1 1 1 0 0 0 0 0 0 0
ONAGRACEAE 1, 1, 1.0			
Epilobium hirsutum *L.*	12	2	0 0 1 1 0 0 0 0 0 0 0 0 0 0
ORCHIDACEAE 27, 53, 2.0			
Acrolophia cochlearis *Schltr. & H. Bol.*	10	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Aerangis mystacidii *(Reichb. f.) Schltr.*	9	2	0 0 0 0 0 0 0 0 1 0 0 0 0 1
Angraecum burchellii *Reichb. f.*	9	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Angraecum conchiferum *Lindl.*	9	3	0 0 1 1 0 0 0 0 0 0 0 0 1 0
Angraecum pusillum *Lindl.*	9	3	0 1 1 0 1 0 0 0 0 0 0 0 0 0
Angraecum sacciferum *Lindl.*	9	3	0 0 1 1 0 0 0 0 0 0 0 0 1 0
Ansellia gigantea *Reichb. f.*	9	2	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Bonatea speciosa *(L. f.) Willd.*	10	2	0 0 1 0 0 0 0 0 1 0 0 0 0 0
Brownleea coerulea *Harv. ex Lindl.*	10	3	0 0 0 1 0 0 1 0 0 0 0 1 0 0
Bulbophyllum sandersonii *Reichb. f.*	9	3	0 0 0 0 0 0 0 0 0 0 0 1 1 1
Calanthe sylvatica *(Thouars) Lindl.*	10	2	0 0 1 0 0 0 0 0 0 0 0 0 0 1
Corymborkis corymbis *Thouars*	10	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Cyrtorchis arcuata *(Lindl.) Schltr.*	9	4	0 0 1 0 0 0 1 0 1 0 0 0 0 1
Cyrtorchis praetermissa *Summerh.*	9	2	0 0 0 0 0 0 0 0 0 0 0 0 1 1
Disperis fanniniae *Harv.*	10	3	0 0 0 0 0 1 0 0 0 0 1 1 0 0
Disperis lindleyana *Reichb. f.*	10	3	0 0 1 1 0 0 0 0 0 0 0 0 0 1
Disperis micrantha *Lindl.*	10	1	0 0 0 1 0 0 0 0 0 0 0 0 0 0
Disperis thorncroftii *Schltr.*	10	3	0 0 1 0 0 0 0 0 1 0 1 0 0 0
Eulophia meleagris *Reichb. f.*	10	1	0 0 0 1 0 0 0 0 0 0 0 0 0 0
Eulophia streptopetala *Lindl.*	10	2	0 0 0 0 0 0 0 0 1 0 0 1 0 0
Habenaria arenaria *Lindl.*	10	2	0 0 1 0 0 0 0 0 0 0 0 0 1 0
Habenaria malacophylla *Reichb. f.*	10	2	0 0 0 1 0 1 0 0 0 0 0 0 0 0
Holothrix aspera *(Lindl.) Reichb. f.*	10	1	1 0 0 0 0 0 0 0 0 0 0 0 0 0
Holothrix orthoceras *(Harv.) Reichb. f.*	10	3	0 0 0 1 0 0 1 0 0 0 1 0 0 0
Holothrix parviflora *(Lindl.) Reichb. f.*	10	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Huttonaea pulchra *Harv.*	10	3	0 0 0 1 0 1 0 0 0 0 1 0 0 0
Jumellea filicornoides *(De Wild.) Schltr.*	9	1	0 0 0 0 0 0 0 0 0 0 0 0 0 1
Liparis bowkeri *Harv.*	10	2	0 0 0 0 0 0 0 0 0 0 1 0 0 1
Liparis capensis *Lindl.*	10	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Liparis remota *J. Stewart & Schelpe*	10	2	0 0 1 0 0 0 1 0 0 0 0 0 0 0
Microcoeli exilis *Lindl.*	9	3	0 0 0 0 0 0 0 1 1 1 0 0 0 0
Monadenia bracteata *(Swartz) Dur. & Schinz*	10	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Mystacidium caffrum *(H. Bol.) H. Bol.*	9	2	0 0 0 0 0 1 0 0 0 0 0 0 0 1
Mystacidium capense *(L. f.) Schltr.*	9	3	0 0 1 0 0 0 0 1 0 0 0 0 1 0
Mystacidium flanaganii *(H. Bol.) H. Bol.*	9	3	0 0 0 1 0 0 0 1 1 0 0 0 0 0
Mystacidium gracile *(Reichb. f.) Harv.*	9	1	0 0 0 1 0 0 0 0 0 0 0 0 0 0
Mystacidium venosum *Harv. ex Rolfe*	9	2	0 0 0 0 0 0 1 0 0 0 0 0 0 1
Oberonia disticha *(Lam.) Schltr.*	9	1	0 0 0 0 0 0 0 0 0 0 0 0 0 1
Oeceoclades lonchophylla *(Reichb. f.) Garay & Taylor*	10	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Platylepis glandulosa *(Lindl.) Reichb. f.*	10	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Polystachya albescens *Ridley* subsp. imbricata *(Rolfe) Summerh.*	9	1	0 0 0 0 0 0 0 0 0 0 0 0 0 1
Polystachya concreta *(Jacq.) Garray & Sweet*	9	2	0 0 0 0 0 0 0 0 0 0 0 1 0 1
Polystachya ottoniana *Reichb. f.*	9	8	0 1 1 1 0 1 0 0 0 0 1 1 1 1
Polystachya pubescens *Reichb. f.*	9	2	0 0 0 1 0 0 0 0 1 0 0 0 0 0
Polystachya transvaalensis *Schltr.*	9	2	0 0 0 0 0 1 0 0 0 0 0 0 1 0
Polystachya zambesiaca *Rolfe*	9	1	0 0 0 0 0 0 0 0 0 0 0 0 0 1
Satyrium ligulatum *Lindl.*	10	2	0 0 1 1 0 0 0 0 0 0 0 0 0 0
Satyrium neglectum *Schltr.*	10	1	0 0 0 0 0 0 0 0 0 0 0 0 0 1
Satyrium parviflorum *Swartz*	10	3	0 0 0 1 0 1 0 0 0 0 0 0 0 1

	GF	Fre	FOREST P G S A E T U H R M C S M N e v o m l r m a i l a a a e n b c a c m t w b c p b k t
Stenoglottis fimbriata *Lindl.*	9	6	0 0 0 1 0 1 0 0 0 0 1 1 1 1
Tridactyle bicaudata *(Lindl.) Schltr.*	9	3	0 0 1 0 1 0 1 0 0 0 0 0 0 0
Tridactyle tricuspis *(H. Bol.) Schltr.*	9	3	0 0 0 0 0 0 0 0 0 0 0 1 1 1
Tridactyle tridentata *(Harv.) Schltr.*	9	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
OSMUNDACEAE 2, 2, 1.0			
Osmunda regalis *L.*	7	5	0 0 1 0 0 0 1 0 0 0 1 0 1 1
Todea barbara *(L.) T. Moore*	7	6	1 1 1 0 0 0 1 0 0 0 0 1 1 0
OXALIDACEAE 1, 4, 4.0			
Oxalis incarnata *L.*	12	2	0 0 1 0 1 0 0 0 0 0 0 0 0 0
Oxalis purpurea *L.*	12	4	1 1 1 0 1 0 0 0 0 0 0 0 0 0
Oxalis semiloba *Sond.*	12	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Oxalis stellata *Eckl. & Zeyh.* var. gracilior *Salter*	12	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
PASSIFLORACEAE 1, 3, 3.0			
Adenia digitata *(Harv.) Engl.*	5	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Adenia gummifera *(Harv.) Harms*	5	6	0 0 0 0 0 0 1 1 1 1 0 0 1 1
Adenia hastata *(Harv.) Schinz*	5	1	0 0 0 0 0 0 0 1 0 0 0 0 0 0
PEDALIACEAE 1, 1, 1.0			
Ceratotheca triloba *(Bernh.) Hook. f.*	12	2	0 0 0 0 0 0 0 0 1 0 0 1 0 0
PERIPLOCACEAE 4, 5, 1.3			
Cryptolepis capensis *Schltr.*	6	1	0 0 0 0 0 0 0 0 0 0 0 0 0 1
Cryptolepis oblongifolia *(Meisn.) Schltr.*	12	2	0 0 0 0 0 0 1 0 0 0 0 1 0 0
Mondia whitei *(Hook. f.) Skeels*	5	2	0 0 0 0 0 0 0 0 1 0 0 0 0 1
Petopentia natalensis *(Schltr.) Bullock*	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Tacazzea apiculata *Oliv.*	5	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
PHYTOLACCACEAE 1, 2, 2.0			
Phytolacca americana *L.*	4	2	1 0 1 0 0 0 0 0 0 0 0 0 0 0
Phytolacca octandra *L.*	4	4	0 0 1 1 0 0 1 0 0 0 0 0 1 0
PIPERACEAE 2, 4, 2.0			
Peperomia blanda *(Jacq.) H.B.K.*	12	4	0 0 0 0 0 0 1 0 1 0 0 1 1 0
Peperomia retusa *(L. f.) A. Dietr.*	9	7	1 1 1 1 0 0 0 0 0 0 0 1 1 1
Peperomia tetraphylla *(G. Forst.) Hook. & Arn.*	9	8	0 1 1 1 0 1 1 0 0 0 1 1 0 1
Piper capense *L. f.*	4	5	0 1 1 0 0 0 0 0 0 0 0 1 1 1
PITTOSPORACEAE 1, 1, 1.0			
Pittosporum viridiflorum *Sims*	1	11	0 1 1 1 1 1 1 0 0 1 1 1 1 1
PLUMBAGINACEAE 2, 3, 1.5			
Limonium scabrum *(Thunb.) Kuntze*	12	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Plumbago auriculata *Lam.*	4	4	0 0 1 1 1 0 0 0 0 0 0 0 1 0
Plumbago zeylanica *L.*	4	1	0 0 0 0 0 0 0 0 0 0 0 0 1 0
POACEAE 34, 57, 1.7			
Agrostis lachnantha *Nees*	11	2	0 0 1 0 0 0 0 0 0 0 0 1 0 0
Aristida junciformis *Trin. & Rupr.*	11	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Brachiaria chusqueoides *(Hack.) Clayton*	11	4	0 0 1 0 0 0 0 1 1 1 0 0 0 0
Brachypodium flexum *Nees*	11	7	0 1 1 1 1 0 0 0 0 0 1 0 1 1
Cymbopogon validus *(Stapf) Stapf ex Burtt Davy*	11	4	0 0 0 0 0 0 0 0 1 1 0 1 0 0
Dactyloctenium australe *Steud.*	11	3	0 0 0 0 0 0 0 1 1 1 0 0 0 0
Dactyloctenium geminatum *Hack.*	11	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Digitaria diversinervis *(Nees) Stapf*	11	3	0 0 0 0 0 0 0 1 1 1 0 0 0 0
Digitaria eriantha *Steud.*	11	1	0 0 0 0 1 0 0 0 0 0 0 0 0 0
Digitaria natalensis *Stent*	11	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Ehrharta calycina *J.E. Sm.*	11	4	0 1 1 1 0 0 0 0 1 0 0 0 0 0
Ehrharta capensis *Thunb.*	11	1	1 0 0 0 0 0 0 0 0 0 0 0 0 0
Ehrharta erecta *Lam.*			
var. erecta	11	4	0 0 1 1 0 0 0 0 0 0 0 1 1 0
var. natalensis *Stapf*	11	3	0 0 1 0 0 0 0 0 1 0 1 0 0 0
Ehrharta rehmannii *Stapf*	11	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Ehrharta subspicata *Stapf*	11	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Ehrharta villosa *Schult. f.*	11	1	0 0 0 0 1 0 0 0 0 0 0 0 0 0
Eragrostis capensis *(Thunb.) Trin.*	11	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Eragrostis curvula *(Schrad.) Nees*	11	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Eulalia villosa *(Thunb.) Nees*	11	2	0 0 0 0 0 0 0 0 1 0 0 1 0 0
Eustachys paspaloides *(Vahl) Lanza & Mattei*	11	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Festuca africana *(Hack.) Clayton*	11	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Hyparrhenia filipendula *(Hochst.) Stapf*	11	1	0 0 0 0 0 0 0 0 1 0 0 1 0 0
Imperata cylindrica *(L.) Raeuschel*	11	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Ischaemum fasciculatum *Brongn.*	11	3	0 0 0 0 0 0 0 0 1 1 0 1 0 0
Loudetia simplex *(Nees) C.E. Hubb.*	11	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Microstegium nudum *(Trin.) A. Camus*	11	3	0 0 1 0 0 0 0 0 0 0 0 0 1 1
Miscanthus capensis *(Nees) Anderss.*	11	1	0 0 0 0 0 0 0 0 0 0 1 0 0 0
Oplismenus hirtellus *(L.) Beauv.*	11	11	0 1 1 1 1 1 1 0 1 0 1 1 1 1
Panicum aequinerve *Nees*	11	5	0 0 0 1 1 0 0 0 1 1 1 0 0 0
Panicum deustum *Thunb.*	11	9	0 0 1 1 1 0 1 1 1 1 0 1 1 0
Panicum ecklonii *Nees*	11	5	0 0 0 1 0 0 1 0 0 0 1 1 1 0
Panicum laticomum *Nees*	11	3	0 0 0 0 0 0 0 1 1 1 0 0 0 0
Panicum maximum *Jacq.*	11	6	0 0 0 1 0 0 0 1 1 1 0 1 1 0
Panicum obumbratum *Stapf.*	11	1	0 0 0 1 0 0 0 0 0 0 0 0 0 0
Panicum subalbidum *Kunth*	11	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Paspalum scrobiculatum *L.*	11	1	0 0 0 0 0 0 0 0 0 0 0 0 0 1
Perotis patens *Gand.*	11	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Phragmites australis *(Cav.) Steud.*	11	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Phragmites mauritianus *Kunth*	11	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Prosphytochloa prehensilis *(Nees) Schweick.*	11	4	0 0 0 1 0 0 1 0 0 0 0 0 1 1
Pseudobromus silvaticus *K. Schum.*	11	2	0 0 0 0 0 0 0 0 0 0 0 0 1 1
Sacciolepis curvata *(L.) Chase*	11	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Setaria megaphylla *(Steud.) Dur. & Schinz*	11	5	0 0 0 0 0 0 0 0 1 1 1 1 0 1
Setaria sphacelata *(Schumach.) Moss*	11	6	0 0 0 0 0 0 0 0 1 1 1 1 1 1
Setaria verticillata *(L.) Beauv.*	11	1	0 0 0 0 0 0 0 1 0 0 0 0 0 0
Sporobolus fourcadii *Stent*	11	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Sporobolus mauritianus *(Steud.) Dur. & Schinz*	11	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Sporobolus subtilis *Kunth*	11	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Sporobolus virginicus *(L.) Kunth*	11	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Stenotaphrum secundatum *(Walt.) Kuntze*	11	3	0 0 1 0 1 0 0 0 1 0 0 0 0 0
Stipa dregeana *Steud.*			
var. dregeana	11	6	1 1 1 0 1 1 0 0 0 0 1 0 0 0
var. elongata *(Nees) Stapf.*	11	3	0 0 1 1 1 0 0 0 0 0 0 0 0 0
Stipagrostis zeyheri *(Nees) De Winter*	11	2	0 0 0 0 1 0 0 0 1 0 0 0 0 0
Trachypogon spicatus *(L. f.) Kuntze*	11	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Trichopteryx dregeana *Nees*	11	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Urelytrum agropyroides *(Hack.) Hack.*	11	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
PODOCARPACEAE 1, 3, 3.0			
Podocarpus falcatus *(Thunb.) R. Br. ex Mirb.*	1	9	0 1 1 1 1 1 0 0 1 0 1 0 1 1
Podocarpus henkelii *Stapf ex Dallim. & Jacks.*	1	2	0 0 0 0 0 1 0 0 0 0 1 0 0 0
Podocarpus latifolius *(Thunb.) R. Br. ex Mirb.*	1	10	1 1 1 1 0 1 1 0 0 0 1 1 1 1
POLYGALACEAE 1, 9, 9.0			
Polygala confusa *Macowan*	12	1	0 0 0 0 0 0 0 0 0 0 1 0 0 0
Polygala esterae *Chod.*	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Polygala fruticosa *Berg.*	3	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Polygala hottentotta *Presl*	4	2	0 0 0 0 0 0 0 0 1 0 0 1 0 0
Polygala myrtifolia *L.*	3	4	1 0 1 1 0 0 0 0 0 0 1 0 0 0
Polygala ohlendorfiana *Eckl. & Zeyh.*	3	3	0 0 0 1 0 0 1 0 1 0 0 0 0 0

	GF	Fre	FOREST P G S A E T U H R M C S M N e v o m l r m a i l a a a e n b c a c m t w b c p b k t
Polygala serpentaria *Eckl. & Zeyh.*	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Polygala sp.	12	2	0 0 0 1 0 1 0 0 0 0 0 0 0 0
Polygala virgata *Thunb.*	3	5	0 0 0 1 0 0 0 0 1 0 1 1 1 0
POLYGONACEAE 3, 3, 1.0			
Oxygonum dregeanum *Meisn.*	12	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Polygonum salicifolium *Willd.*	12	5	0 0 1 1 0 0 1 0 1 0 0 1 0 0
Rumex sagittatus *Thunb.*	6	8	0 1 1 1 0 0 1 0 0 0 1 1 1 1
POLYPODIACEAE 6, 11, 1.8			
Loxogramme lanceolata *(Swartz) Presl*	9	1	0 0 0 0 0 0 0 0 0 0 0 0 1 0
Microgramma lycopodioides *(L.) Copel.*	9	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Microsorium ensiforme *(Thunb.) Schelpe*	9	2	0 1 1 0 0 0 0 0 0 0 0 0 0 0
Microsorium punctatum *(L.) Copel.*	9	3	0 0 0 0 0 0 1 0 1 1 0 0 0 0
Microsorium scolopendrium *(Burm. f.) Copel.*	9	2	0 0 0 0 0 0 1 0 1 1 0 0 0 0
Pleopeltis excavata *(Bory ex Willd.) Sledge*	9	2	0 0 0 0 0 0 0 0 0 0 0 0 1 1
Pleopeltis macrocarpa *(Bory ex Willd.) Kaulf.*	9	10	1 1 1 1 1 0 1 0 0 0 1 1 1 1
Pleopeltis schraderi *(Mett.) Tardieu-Blot*	9	6	0 0 1 1 0 1 1 0 0 0 1 0 1 0
Pleopodium simianum *Schelpe & N.C. Anthony*	9	2	0 0 1 1 0 0 0 0 0 0 0 0 0 0
Polypodium polypodioides *(L.) Hitchc.*	9	9	0 0 0 1 1 1 1 0 1 0 1 1 1 1
Polypodium vulgare *L.*	8	3	0 0 0 1 0 1 0 0 0 0 1 0 0 0
PORTULACACEAE 1, 1, 1.0			
Portulacaria afra *Jacq.*	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
PRIMULACEAE 1, 1, 1.0			
Samolus valerandi *L.*	12	2	0 0 0 0 1 0 0 0 1 0 0 0 0 0
PROTEACEAE 2, 3, 1.5			
Brabejum stellatifolium *L.*	2	1	1 0 0 0 0 0 0 0 0 0 0 0 0 0
Faurea macnaughtonii *Phill.*	1	3	0 0 1 0 0 0 1 0 0 0 0 0 1 0
Faurea speciosa *(Welw.) Welw.*	2	2	0 0 0 0 0 0 0 0 0 0 0 1 1 0
PSILOTACEAE 1, 1, 1.0			
Psilotum nudum *(L.) Beauv.*	8	2	0 0 0 0 0 0 1 0 1 0 0 0 0 0
PTAEROXYLACEAE 1, 1, 1.0			
Ptaeroxylon obliquum *(Thunb.) Radlk.*	2	6	0 0 0 1 1 1 1 0 0 1 0 0 1 0
RANUNCULACEAE 4, 8, 2.0			
Clematis brachiata *Thunb.*	5	8	0 0 1 1 0 0 1 0 1 0 1 1 1 1
Knowltonia cordata *H. Rasm.*	12	2	0 0 1 1 0 0 0 0 0 0 0 0 0 0
Knowltonia bracteata *Harv. ex Zahlbr.*	12	1	0 0 0 0 0 1 0 0 0 0 0 0 0 0
Knowltonia filia *(L. f.) Dur. & Schinz* subsp. scaposa *H. Rasm.*	12	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Knowltonia vesicatoria *(L. f.) Sims*			
subsp. grossa *H. Rasm.*	12	3	1 1 1 0 0 0 0 0 0 0 0 0 0 0
subsp. humilis *H. Rasm.*	12	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Ranunculus multifidus *Forssk.*	12	7	0 1 1 1 0 0 1 0 1 0 1 0 0 1
Thalictrum rhynchocarpum *Dill. & Rich.*	12	6	0 0 0 1 0 1 0 0 0 0 1 1 1 1
RHAMNACEAE 6, 8, 1,3			
Berchemia discolor *(Klotzsch) Hemsl.*	2	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Berchemia zeyheri *(Sond.) Grubov*	2	2	0 0 0 0 0 0 0 0 0 0 0 1 1 0
Helinus integrifolius *(Lam.) Kuntze*	3	6	0 0 0 1 1 0 1 0 1 1 0 0 1 0
Phylica buxifolia *L.*	3	1	1 0 0 0 0 0 0 0 0 0 0 0 0 0
Phylica paniculata *Willd.*	3	2	0 0 0 0 0 0 1 0 0 0 0 1 0 0
Rhamnus prinoides *L'Hérit.*	2	8	0 1 1 1 0 1 0 0 0 0 1 1 1 1
Scutia myrtina *(Burm. f.) Kurz*	3	13	1 1 1 1 1 1 1 1 1 1 1 0 1 1
Ziziphus mucronata *Willd.*	1	5	0 0 0 1 0 0 0 1 1 1 0 1 0 0
RHIZOPHORACEAE 2, 5, 2.5			
Bruguiera gymnorrhiza *(L.) Lam.*	2	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Cassipourea flanaganii *(Schinz) Alston*	2	2	0 0 0 1 0 1 0 0 0 0 0 0 0 0
Cassipourea gerrardii *(Schinz) Alston*	2	8	0 0 0 1 0 1 1 1 0 1 0 1 1 1
Cassipourea gummiflua *Tul.*	2	3	0 0 0 0 0 0 1 1 1 0 0 0 0 0
Cassipourea malosana *(Bak.) Alston*	2	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
ROSACEAE 5, 9, 1.8			
Alchemilla capensis *Thunb.*	12	2	0 0 1 1 0 0 0 0 0 0 0 0 0 0
Alchemilla rehmannii *Engl.*	12	2	0 0 0 0 0 0 0 0 0 0 0 0 1 1
Cliffortia linearifolia *Eckl. & Zeyh.*	3	3	0 0 0 1 0 0 0 0 0 0 1 0 1 0
Cliffortia serpyllifolia *Cham. & Sclechtd.*	3	2	0 0 0 1 0 0 1 0 0 0 0 0 0 0
Leucosidea sericea *Eckl. & Zeyh.*	2	5	0 0 0 1 0 1 0 0 0 0 1 1 0 1
Prunus africana *(Hook. f) Kalkm.*	1	7	0 0 1 1 0 1 1 0 0 0 0 1 1 1
Rubus pinnatus *Willd.*	5	9	1 1 1 1 0 0 1 0 0 0 1 1 1 1
Rubus rigidus *J.E. Sm.*	5	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Rubus rosifolius *J.E. Sm.*	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
RUBIACEAE 31, 66, 2.1			
Alberta magna *E. Mey.*	2	2	0 0 0 0 0 0 1 0 1 0 0 0 0 0
Anthospermum herbaceum *L. f.*	12	1	0 0 0 0 0 0 0 0 1 0 0 0 0 0
Breonadia salicina *(Vahl) Hepper & Wood*	2	3	0 0 0 0 0 0 0 0 0 0 0 1 1 1
Burchellia bubalina *(L. f.) Sims*	2	8	0 1 1 1 1 1 1 0 1 0 1 0 0 0
Canthium ciliatum *(Klotzsch) Kuntze*	3	9	0 0 1 1 1 1 1 1 0 0 1 1 1 0
Canthium gueinzii *Sond.*	5	6	0 0 0 0 0 0 1 1 1 0 0 1 1 1
Canthium inerme *(L. f.) Kuntze*	2	13	1 1 1 1 1 1 1 1 1 1 0 1 1 1
Canthium mundianum *Cham. & Schlechtd.*	2	7	1 1 1 1 0 1 0 1 0 0 0 0 1 0
Canthium pauciflorum *(Klotzsch) Kuntze*	2	6	0 0 1 1 1 1 0 1 0 0 1 0 0 0
Canthium setiflorum *Hiern*	3	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Canthium spinosum *(Klotzsch) Kuntze*	2	4	0 0 1 0 1 0 1 0 0 1 0 0 0 0
Canthium sp. nov.	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Canthium suberosum *Codd*	2	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Catunaregam spinosa *(Thunb.) Tirvengadum*	3	5	0 0 0 0 0 1 1 1 1 1 0 0 0 0
Cephalanthus natalensis *L.*	5	3	0 0 0 0 0 0 0 0 0 0 0 1 1 1
Coddia rudis *(E. Mey. ex Harv.) Verdc.*	3	4	0 0 0 1 1 0 1 0 0 1 0 0 0 0
Coffea racemosa *Lour.*	3	1	0 0 0 0 0 0 0 0 0 1 0 0 0 0
Conostomium natalense *(Hochst.) Brem.*	3	2	0 0 0 0 0 0 1 0 0 0 1 0 0 0
Galium mucroniferum *Sond.*	12	1	0 1 0 0 0 0 0 0 0 0 0 0 0 0
Galium thunbergianum *Eckl. & Zeyh.*	12	1	0 0 0 0 0 0 0 0 0 0 1 0 0 0
Galopina circaeoides *Thunb.*	12	11	0 1 1 1 1 1 1 0 1 0 1 1 1 1
Gardenia thunbergia *L. f.*	3	5	0 0 1 1 1 1 1 0 0 0 0 0 0 0
Hyperacanthus amoenus *(Sims) Bridson*	3	7	0 0 0 1 1 1 1 0 1 0 0 1 1 0
Kraussia floribunda *Harv.*	3	3	0 0 0 0 0 0 0 0 1 1 0 1 0 0
Lagynias lasiantha *(Sond.) Bullock*	3	2	0 0 0 0 0 0 0 1 0 1 0 0 0 0
Mitriostigma axillare *Hochst.*	3	3	0 0 0 0 0 0 1 1 1 0 0 0 0 0
Otiophora cupheoides *N.E. Br.*	3	1	0 0 0 0 0 0 0 0 0 0 0 0 1 0
Oxyanthus speciosus *DC.* subsp. gerrardii *(Sond.) Bridson*	2	6	0 0 0 1 0 1 1 0 0 0 0 1 1 1
Pachystigma cymosum *Robyns*	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Pachystigma macrocalyx *(Sond.) Robyns*	3	3	0 0 0 0 0 0 1 0 1 0 0 0 1 0
Pavetta barbertonensis *Brem.*	3	1	0 0 0 0 0 0 0 0 0 0 0 0 0 1
Pavetta bowkeri *Harv.*	3	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Pavetta capensis *(Houtt.) Brem.* subsp. komghensis *(Brem.) Kok*	3	3	0 0 0 1 0 0 1 0 0 1 0 0 0 0

			FOREST
	GF	Fre	P G S A E T U H R M C S M N e v o m l r m a i l a a a e n b c a c m t w b c p b k t
Pavetta cooperi *Harv. & Sond.*	3	3	00000100001100
Pavetta galpinii *Brem.*	3	2	00000010000100
Pavetta gerstneri *Brem.*	3	1	00000000010000
Pavetta gracilifolia *Brem.*	3	1	00000000010000
Pavetta inandensis *Brem.*	3	1	00000010000000
Pavetta kotzei *Brem.*	3	1	00010000000000
Pavetta lanceolata *Eckl.*	2	8	00011110110011
Pavetta natalensis *Sond.*	3	1	00000010000000
Pavetta revoluta *Hochst.*	3	4	00001001110000
Pavetta sp.	3	1	00000000010000
Pentanisia prunelloides *(Eckl. & Zeyh.) Walp.*	12	1	00000000000010
Pentas micrantha *Bak.*	12	1	00000000000001
Plectroniella armata *(K. Schum.) Robyns*	1	1	00000000010000
Psychotria capensis *(Eckl.) Vatke*	3	11	00111111110111
Psychotria zombamontana *(Kuntze) Petit*	2	2	00000000000110
Psydrax livida *(Hiern) Bridson*	2	2	00000000000101
Psydrax locuples *(K. Schum.) Bridson*	2	1	00000000000100
Psydrax obovata *(Eckl. & Zeyh.) Bridson* subsp. obovata	1	11	01111111110101
Rothmannia capensis *Thunb.*	2	8	01110110000111
Rothmannia globosa *(Hochst.) Keay*	2	8	00101111110100
Rubia cordifolia *L.*	12	2	00000010100000
Rubia petiolaris *DC.*	12	3	00110000000010
Tarenna junodii *(Schinz) Brem.*	3	1	00000000010000
Tarenna littoralis *(Hiern) Bridson*	3	2	00000000110000
Tarenna pavettoides *(Harv.) Sim*	3	3	00000110100000
Tarenna supra-axillaris *(Hemsl.) Brem.*	3	1	00000000010000
Tricalysia capensis *(Meisn.) Sim*	2	6	00000110010111
Tricalysia lanceolata *(Sond.) Burtt Davy*	2	6	00001110010110
Tricalysia sonderiana *Hiern*	2	3	00000001110000
Vangueria cyanescens *Robyns*	2	1	00000000000010
Vangueria esculenta *S. Moore*	2	1	00000100000000
Vangueria infausta *Burch.*	2	1	00000000110000
Vangueria randii *S. Moore* subsp. chartacea *(Robyns) Verdc.*	2	3	00000001110000
RUTACEAE 7, 10, 1.4			
Calodendrum capense *(L. f.) Thunb.*	1	11	01111110111011
Clausena anisata *(Willd.) Hook. f. ex Benth.*	2	12	00111111111111
Oricia bachmannii *(Engl.) Verdoorn*	3	2	00000110000000
Teclea gerrardii *Verdoorn*	2	3	00000001110000
Teclea natalensis *(Sond.) Engl.*	2	9	00011111110011
Toddalia asiatica *(L.) Lam.*	5	2	00000000000101
Vepris undulata *(Thunb.) Verdoorn & C.A. Sm.*	1	10	01111110110011
Zanthoxylum davyi *(Verdoorn) Waterm.*	1	7	00110110000111
Zanthoxylum capense *(Thunb.) Harv.*	2	11	00111111110111
Zanthoxylum thorncroftii *(Verdoorn) Waterm.*	2	1	00000000000100
SALVADORACEAE 1, 1, 1.0			
Azima tetracantha *Lam.*	3	3	00101010000000
SANTALACEAE 3, 3, 1.0			
Colpoon compressum *Berg.*	3	7	01111010011000
Osyridicarpos schimperianus *(Hochst. ex A. Rich.) A. DC.*	5	4	00010010000101
Rhoiacarpos capensis *(Harv.) A. DC.*	3	1	00001000000000
SAPINDACEAE 8, 12, 1.5			
Allophylus decipiens *(Sond.) Radlk.*	2	4	00111100000000
Allophylus dregeanus *(Sond.) De Winter*	2	3	00000110100000
Allophylus melanocarpus *(Sond.) Radlk.*	2	7	00000011111110
Allophylus natalensis *(Sond.) De Winter*	2	5	00001101110000
Allophylus transvaalensis *Burtt Davy*	2	3	00000000000111
Atalaya natalensis *R.A. Dyer*	2	1	00000010000000
Blighia unijugata *Bak.*	1	1	00000000010000
Deinbollia oblongifolia *(E. Mey. ex Arn.) Radlk.*	3	5	00001011110000
Dodonaea angustifolia *L. f.*	3	3	00100010010000
Hippobromus pauciflorus *(L. f.) Radlk.*	2	7	00111110100010
Pancovia golungensis *(Hiern) Exell & Mendonca*	3	2	00000000110000
Pappea capensis *Eckl. & Zeyh.*	2	3	00001000010010
SAPOTACEAE 7, 13, 1.9			
Bequaertiodendron magalismontanum *(Sond.) Heine & J.H. Hemsl.*	2	1	00000000000100
Bequaertiodendron natalense *(Sond.) Heine & J.H. Hemsl.*	2	4	00000010110010
Chrysophyllum viridifolium *J.M. Wood & Franks*	2	3	00000011010000
Inhambanella henriquesii *(Engl. & Warb.) Dubard*	1	1	00000000010000
Manilkara concolor *(Harv. ex C.H. Wr.) Gerstner*	1	2	00000000110000
Manilkara discolor *(Sond.) J.H. Hemsl.*	1	2	00000000110000
Manilkara nicholsonii *Van Wyk*	2	1	00000010000000
Mimusops caffra *E. Mey. ex A. DC.*	1	4	00001001110000
Mimusops obovata *Sond.*	1	7	00011011110010
Mimusops zeyheri *Sond.*	1	3	00000000000111
Sideroxylon inerme *L.*	1	9	01111111110000
Vitellariopsis dispar *(N.E. Br.) Aubrev.*	2	1	00000000010000
Vitellariopsis marginata *(N.E. Br.) Aubrev.*	2	2	00000010010000
SCHIZAEACEAE 1, 1, 1.0			
Mohria caffrorum *(L.) Desv.*	7	7	00110100001111
SCROPHULARIACEAE 10, 19, 1.9			
Alectra orobanchoides *Benth.*	12	1	00000000000001
Anastrabe integerrima *E. Mey. ex Benth.*	2	2	00001010000000
Bowkeria cymosa *Macowan*	2	1	00000000000010
Bowkeria verticillata *(Eckl. & Zeyh.) Schinz*	3	3	00010100001000
Dermatobotrys saundersii *H. Bol.*	9	2	00000010100000
Diclis reptans *Benth.*	12	6	00110000101011
Halleria lucida *L.*	2	11	11110110101111
Harveya capensis *Hook.*	12	1	00100000000000
Harveya huttonii *Hiern*	12	2	00010000000010
Harveya stenosiphon *Hiern*	12	1	00100000000000
Nemesia denticulata *(Benth.) Fourc.*	12	2	00000001100000
Nemesia macrocarpa *(Ait.) Druce*	12	1	10000000000000
Nemesia melissifolia *Benth.*	12	3	00110000001000
Nemesia petiolina *Hiern*	12	1	01000000000000
Sutera aethiopica *(L.) Kuntze*	4	1	00100000000000
Sutera cordata *(Thunb.) Kuntze*			
var. cordata	12	1	00100000000000
var. hirsutior *(Benth.) Hiern*	12	1	00100000000000
Sutera floribunda *(Benth.) Kuntze*	12	4	00001000101010
Teedia lucida *Rudolphi*	4	2	00110000000000
SELAGINACEAE 1, 1, 1.0			
Tetraselago natalensis *(Rolfe) Junell*	12	1	00000000000100

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SELAGINELLACEAE 1, 3, 3.0			
Selaginella dregei *(Presl) Hieron.*	8	3	00000000000111
Selaginella kraussiana *(Kunze) A. Br. ex Kuhn*	8	6	00110100000111
Selaginella mittenii *Bak.*	8	2	00000000000011
SIMAROUBACEAE 1, 1, 1.0			
Kirkia acuminata *Oliv.*	1	1	00000000000100
SOLANACEAE 2, 10, 5.0			
Solanum aculeastrum *Dun.*	4	3	00101000000001
Solanum aculeatissimum *Jacq.*	12	4	00110000000011
Solanum americanum *Mill.*	4	1	00001000000000
Solanum didymanthum *Dun.*	4	1	00000010000000
Solanum geniculatum *E. Mey.*	5	2	00100000000010
Solanum giganteum *Jacq.*	4	6	01110000001011
Solanum hermannii *Dun.*	4	1	00100000000000
Solanum retroflexum *Dun.*	4	2	00010010000000
Solanum terminale *Forssk.*	5	2	00000010000001
Withania somnifera *(L.) Dun.*	3	3	00010000100010
STERCULIACEAE 3, 6, 2.0			
Cola greenwayi *Brenan*	2	1	00000000010000
Cola natalensis *Oliv.*	1	3	00000011010000
Dombeya pulchra *N.E. Br.*	3	1	00000000000100
Dombeya rotundifolia *(Hochst.) Planch.*	1	2	00000000100100
Dombeya tiliacea *(Endl.) Planch.*	2	2	00001010000000
Sterculia murex *Hemsl.*	2	2	00000000000110
STRELITZIACEAE 1, 4, 4.0			
Strelitzia alba *(L. f.) Skeels*	2	1	00100000000000
Strelitzia caudata *R.A. Dyer*	2	2	00000000000101
Strelitzia nicolai *Regel & Koern.*	2	4	00001010110000
Strelitzia reginae *Ait.*	12	1	00001000000000
THELYPTERIDACEAE 2, 9, 4.5			
Macrothelypteris torresiana *(Gaud.) Ching*	7	1	00000010000000
Thelypteris bergiana *(Schlechld.) Ching*	7	6	01110000000111
Thelypteris confluens *(Thunb.) Morton*	7	4	00110000001001
Thelypteris dentata *(Forssk.) E. St. John*	7	3	00000100100010
Thelypteris gueinziana *(Mett.) Schelpe*	7	5	00100110000110
Thelypteris interrupta *(Willd.) K. Iwats.*	7	2	00100000000100
Thelypteris knysnaensis *N.C. Anthony & Schelpe*	7	1	00100000000000
Thelypteris madagascariensis *(Fee) Schelpe*	7	3	00000100000101
Thelypteris pozoi *(Lagasca) Morton*	7	6	00110100000111
THYMELAEACEAE 6, 11, 1.8			
Dais cotinifolia *L.*	2	5	00000110001011
Englerodaphne pilosa *Burtt Davy*	3	2	00010100000000
Englerodaphne ovalifolia *(Meisn.) Phill.*	3	1	00000010000000
Gnidia denudata *Lindl.*	3	2	01100000000000
Gnidia polyantha *Gilg*	3	1	00000000000010
Gnidia pulchella *Meisn.*	3	2	00010010000000
Gnidia woodii *C.H. Wr.*	3	1	00000010000000
Passerina falcifolia *C.H. Wr.*	3	1	00100000000000
Passerina rigida *Wikstr.*	3	3	00001000110000
Peddiea africana *Harv.*	2	8	00000111110111
Struthiola pondoensis *Gilg ex C.H. Wr.*	3	1	00000010000000
TILIACEAE 3, 8, 2.7			
Grewia caffra *Meisn.*	5	3	00000001110000
Grewia lasiocarpa *E. Mey. ex Harv.*	3	3	00001110000000
Grewia occidentalis *L.*	3	13	11111111110111

	GF	Fre	FOREST P G S A E T U H R M C S M N e v o m l r m a i l a a a e n b c a c m t w b c p b k t
Sparrmannia africana *L. f.*	4	2	01100000000000
Sparrmannia ricinocarpa *(Eckl. & Zeyh.) Kuntze*	4	3	00010000001001
Triumfetta annua *L.*	12	1	00000000000010
Triumfetta pilosa *Roth*	3	3	00000010100100
Triumfetta rhomboidea *Jacq.*	3	2	00000000100100
TRIMENIACEAE 1, 1, 1.0			
Xymalos monospora *(Harv.) Baill.*	1	6	00010110000111
TYPHACEAE 1, 1, 1.0			
Typha capensis *(Rohrb.) N.E. Br.*	1	11	00000000100100
ULMACEAE 3, 4, 1.3			
Celtis africana *Burm. f.*	1	13	11111101111111
Celtis durandii *Engl.*	1	2	00000010100000
Chaetacme aristata *Planch*	3	7	00011111110000
Trema orientalis *(L.) Blume*	2	6	00000010110111
URTICACEAE 9, 12, 1.3			
Australina capensis *Wedd.*	12	1	00100000000000
Didymodoxa caffra *(Thunb.) Friis & Wilmot-Dear*	12	2	00010000000001
Droguetia burchellii *N.E. Br.*	12	4	01111000000000
Droguetia thunbergii *N.E. Br.*	12	1	01000000000000
Laportea alatipes *Hook. f.*	12	2	00000000000011
Laportea grossa *(Wedd.) Chew*	12	2	00100010000000
Laportea peduncularis *(Wedd.) Chew*	12	10	00111010111111
Obetia tenax *(N.E. Br.) Friis*	12	1	00000010000000
Pilea rivularis *Wedd.*	12	1	00000000000001
Pouzolzia parasitica *(Forssk.) Schweinf.*	3	1	00000000000001
Urera cameroonensis *Wedd.*	3	3	00000011100000
Urtica lobulata *Blume*	12	1	00010000000000
VELLOZIACEAE 2, 2, 1.0			
Talbotia elegans *Balf.*	10	1	00000000001000
Xerophyta retinervis *Bak.*	10	1	00000000000100
VERBENACEAE 5, 7, 1.4			
Avicennia marina *(Forssk.) Vierh.*	2	1	00000000100000
Clerodendron glabrum *E. Mey.*	2	9	00110011110111
Clerodendron myricoides *(Hochst.) Vatke*	2	2	00000001000100
Clerodendron suffruticosum *Guerke*	2	1	00000000000100
Lantana mearnsii *Moldenke*	3	1	00000000000100
Lippia javanica *(Burm. f.) Spreng.*	3	3	00000010100100
Priva meyeri *Jaub. & Spach*	3	2	00010000010000
VIOLACEAE 1, 3, 3.0			
Rinorea angustifolia *(Thouars) Baill.*	2	2	00000010000001
Rinorea domatiosa *Van Wyk*	2	1	00000010000000
Rinorea ilicifolia *(Welw. ex Oliv.) Kuntze*	3	2	00000000110000
VISCACEAE 1, 4, 4.0			
Viscum nervosum *Hochst. ex A. Rich.*	3	1	00000000000010
Viscum obovatum *Harv.*	3	1	00000000100000
Viscum obscurum *Thunb.*	3	5	00110110000010
Viscum rotundifolium *L. f.*	3	1	00100000000000
VITACEAE 4, 14, 3.5			
Cayratia gracilis *(Guill. & Perr.) Suesseng.*	6	1	00000000000001
Cissus fragilis *E. Mey. ex Kunth*	5	2	00000010100000
Cissus quadrangularis *L.*	5	1	00000000010000
Cyphostemma anatomicum *(C.A. Sm.) Wild & Drum.*	5	3	00000000000111
Cyphostemma cirrhosum *(Thunb.) Descoings ex Wild & Drum.*	6	6	00011001110001

	GF	Fre	FOREST P G S A E T U H R M C S M N e v o m l r m a i l a a a e n b c a c m t w b c p b k t
Cyphostemma hypoleucum *(Harv.) Descoings ex Wild & Drum.*	6	2	0 0 1 0 0 0 1 0 0 0 0 0 0 0
Cyphostemma sp. nov.	5	1	0 0 0 0 0 0 1 0 0 0 0 0 0 0
Cyphostemma woodii *(Gilg & Brandt) Descoings*	5	1	0 0 0 0 0 0 0 0 0 0 0 1 0 0
Rhoicissus digitata *(L. f.) Gilg & Brandt*	5	7	0 1 1 1 1 0 1 0 1 1 0 0 0 0
Rhoicissus revoilii *Planch.*	5	6	0 0 0 1 0 1 0 0 0 1 0 0 1 1
Rhoicissus rhomboidea *(E. Mey. ex Harv.) Planch.*	5	8	0 0 0 0 0 1 1 1 1 1 0 1 1 1
Rhoicissus sp.	5	2	0 0 0 0 0 0 0 0 1 1 0 0 0 0
Rhoicissus tomentosa *(Lam.) Wild & Drum.*	5	10	0 1 1 0 1 1 1 1 1 0 0 1 1 1
Rhoicissus tridentata *(L. f.) Wild & Drum.*	5	12	0 1 1 1 1 1 1 0 1 1 1 1 1 1
VITTARIACEAE 1, 1, 1.0			
Vittaria isoetifolia *Bory*	9	3	0 0 1 0 0 0 1 0 0 0 0 0 1 0
ZAMIACEAE 1, 2, 2.0			
Encephalartos altensteinii *Lehm.*	3	1	0 0 0 0 1 0 0 0 0 0 0 0 0 0
Encephalartos villosus *Lem.*	3	2	0 0 0 0 1 0 1 0 0 0 0 0 0 0
ZYGOPHYLLACEAE 1, 2, 2.0			
Zygophyllum morgsana *L.*	4	1	0 0 1 0 0 0 0 0 0 0 0 0 0 0
Zygophyllum uitenhagense *Sond.*	12	1	0 0 0 0 1 0 0 0 0 0 0 0 0 0