

A checklist of the plants of the Karkloof Forest, Natal midlands

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ABSTRACT

A checklist of the plants of the Karkloof Forest is presented. Of the 400 taxa recorded, seven are bryophytes, 69 are pteridophytes, four are gymnosperms and 320 are angiosperms. At least 17 of the plants recorded are localized or uncommon in Natal. Two of these are endemic to the area.

UITTREKSEL

'n Kontrolelys van plante van die Karkloofwoud word verskaf. Van die 400 taksons wat aangeteken is, is sewe briofiete, 69 pteridofiete, vier gimnosperme en 320 angiosperme. Minstens 17 van die aangetekende plante is tot sekere lokaliteite beperk of is seldsaam in Natal. Twee hiervan is endemies in die gebied.

INTRODUCTION

Rycroft (1941) carried out the first detailed study of the Karkloof Forest's vegetation and provides a preliminary checklist of the plants. Taylor (1961) gives a brief account of the plant communities of the Karkloof Forest although his paper is directed at its conservation. More recently Moll (1976) included the Karkloof Forest in his vegetation survey of the Three Rivers region, Natal. Other than the above, little has been published on the area, despite the fact that it is one of the largest remaining patches of mistbelt forest in Natal.

The absence in regional herbaria of records of species commonly seen in the area highlighted the need for a comprehensive checklist of the forest plants.

STUDY AREA AND METHODS

The Karkloof Forest lies in the Natal midlands and covers an estimated area of 6 000 ha (Cooper 1985). It extends in length for 40 km, from about 22 km north of Howick (29°17'S, 30°09'E) to 13 km northeast of New Hanover (29°14'S, 30°28'E), and comprises a number of forest patches restricted mainly to the steep eastward side of the Karkloof Range. The forest ranges in altitude from 800 m near the Karkloof and Umgeni River confluence up to 1 700 m on the upper slopes of Mt Gilboa.

Most of the forests in the midlands region, including the Karkloof, fall under Acocks's (1988) Veld Type 5 (Ngongoni Veld). In addition to mist the forest receives a mean annual rainfall of about 1 600 mm (1 300–2 200 mm) (Rycroft 1944; Oatley 1978; pers. obs.) falling mostly in summer. Predominant winds in the summer months are southeasterly but in winter, as along most of the escarpment, northwesterly berg winds predominate. Rycroft (1944) attributes the stunted growth of forest trees in the northwestern Karkloof and the deaths of numerous young forest trees each year to these latter hot, dry winds.

Little is published of temperatures within the forest but Oatley (1978) recorded some data over a two year period. From his data the mean annual maximum temperature is 18.0°C (range 15.2–20.9°C) measured in February, and the mean minimum is 8.4°C (range 4.6–12.2°C) in July.

Most of the collecting for this survey was done near the Farms Mbona and Chard which form part of the Blinkwater forest patch. Other sites in the Karkloof were also visited during the survey for the purpose of completeness. All specimens are lodged at NU. In addition to my specimens, any records of plants from other collectors, which were found in NU, are included. Of these, E.J. Moll has possibly contributed the most. Much of his collecting was carried out in the forest near the Farms The Start, Benvie and Ehlatini. Even though every effort was made to make the checklist as comprehensive as possible, there will be a number of species that have been overlooked. Bryophytes were only occasionally collected during this survey, and field observations indicate that many more taxa occur in the forest than this checklist suggests.

RESULTS AND DISCUSSION

Rycroft (1941) recorded 246 species in his preliminary checklist of the forest plants but did not mention any voucher specimens. He lists 45 species of pteridophytes, four gymnosperms, 25 monocotyledons and 172 dicotyledons.

Of the 400 taxa (266 genera, 115 families) recorded in the Karkloof Forest during this survey, seven (1.8%) are bryophytes, 69 (17.3%) are pteridophytes, four (1.0%) are gymnosperms and 320 (80.0%) are angiosperms. Of the angiosperms, 67 (16.8%) are monocotyledons and 253 (63.3%) are dicotyledons. Plant families containing more than one percent of the total number of species are listed in order of numerical importance in Table 1. The genera of plants with four or more (> 1%) species are *Asplenium* (11 spp.), *Senecio*, *Solanum* (7 spp.), *Blechnum*, *Cheilanthes*, *Plectranthus*, *Streptocarpus* (5 spp.), *Canthium*, *Lycopodium*, *Maytenus*, *Protasparagus* and

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TABLE 1. — Synopsis of the plant families of the Karkloof Forest with four or more species (> 1%), listed in order of numerical importance together with the number of genera in each family

Family	No. species	No. genera
Asteraceae	26	15
Orchidaceae	16	8
Rubiaceae	16	9
Adiantaceae	13	4
Cyperaceae	13	7
Liliaceae	12	7
Aspleniaceae	11	1
Euphorbiaceae	11	7
Fabaceae	11	9
Poaceae	11	8
Lamiaceae	10	4
Rosaceae	8	6
Solanaceae	8	2
Acanthaceae	7	5
Flacourtiaceae	7	6
Aspidiaceae	6	4
Celastraceae	6	2
Scrophulariaceae	6	6
Anacardiaceae	5	3
Apiaceae	5	5
Blechnaceae	5	1
Gesneriaceae	5	1
Loganiaceae	5	3
Rutaceae	5	5
Dennstaedtiaceae	4	4
Hymenophyllaceae	4	2
Juncaceae	4	2
Lycopodiaceae	4	1
Polypodiaceae	4	3
Rhamnaceae	4	4
Thymelaeaceae	4	4
Urticaceae	4	3

Pteris (4 spp.). No comparative data are available for other mistbelt forests in Natal, but Acocks (1988) also notes the dominance of ferns and other genera such as *Plectranthus* in the forests of this region.

Although a crude attempt was made to include species habitat preferences on the checklist, no indication of status is shown [some quantitative data are available but will appear elsewhere (Wirminghaus & Perrin in prep.)]. At least 17 of the species recorded from the forest were found to be uncommon or to have localized distributions within Natal. The ferns *Arachniodes foliosa*, *Asplenium dregeanum*, *Asplenium preussii*, *Blechnum capense*, *Elaphoglossum aubertii*, *Loxogramme lanceolata* and *Trichomanes reptans* are regarded as rare in Natal

(Jacobsen 1983) and are known from only one or two sites in the forest. Other plants such as *Hilliardia zuurbergensis*, *Lobelia malowensis*, *Microstegium nudum*, *Mikaniopsis cissampelina*, *Plectranthus elegantulus*, *Polygonum nepalense* and the trees *Andrachne ovalis* and *Suregada procera*, are only known from a few localities within Natal. The herbs *Geranium natalense* and *Plectranthus rehmannii* are the only plants known to be endemic to the Karkloof Forest (Codd 1985; Hilliard & Burt 1985).

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CHECKLIST

The checklist is arranged according to Gibbs Russell *et al.* (1985) and Gibbs Russell *et al.* (1987), and one orchid according to Linder (1989). All voucher specimens cited are specimens collected by J.O. Wirminghaus and housed in NU unless otherwise stated or unless a literature citation is given. Introduced and alien species are indicated by an asterisk. In order to make the list more meaningful, habitat annotations have been added for each species recorded. These are derived either from herbarium specimen labels or from personal field observations and are as follows: 1, forest margins; 2, forest gaps or small clearings; 3, forest floor; 4, forest understorey; 5, forest canopy; 6, next to streams in forest.

BRYOPHYTA

RICCIACEAE

Riccia fluitans L., 741, 6

MARCHANTIACEAE

Dumortiera hirsuta (Sw.) Nees, 655, 6

PALLAVICINIACEAE

Symphyogyna podophylla (Thunb.) Nees & Mont., 855, 6

BRYACEAE

Bryum argenteum Hedw., S.E. Wood 24, 3

Rhodobryum umbraculum (Hook.) Schimp. ex Par., 641, 3

PTEROBRYACEAE

Calypothecium hoehnellii (C. Muell.) Argent., *Sim* 585, 3

NECKERACEAE

Porothamnium natalense (C. Muell.) Fleisch., *Moll* 2867, 3

PTERIDOPHYTA

LYCOPODIACEAE

Lycopodium

- cernuum L., 879, 1
 clavatum L., F. Bayer s.n., 1
 gnidioides L. f., 801, 6
 verticillatum L. f., Fisher 516, 6

SELAGINELLACEAE

Selaginella

- kraussiana (Kunze) A. Braun, 630, 3, 6
 mittenii Bak., 654, 3

OPHIOGLOSSACEAE

Ophioglossum polyphyllum A. Br. ex Seub., 903, 3

MARATTIACEAE

Marattia fraxinea J.E. Sm. ex J.F. Gmel. var. salicifolia (Schrad.) C. Chr., 609, 6

SCHIZAEACEAE

- Anemia dregeana Kunze, Hilliard 2575, 3
 Mohria caffrorum (L.) Desv., 805, 1

GLEICHENIACEAE

Gleichenia umbraculifera (Kunze) T. Moore, 808, 1

HYMENOPHYLLACEAE

- Hymenophyllum tunbridgense (L.) J.E. Sm., 1166, 6
 Trichomanes
 borbonicum V. d. Bosch, 800, 6
 pyxidiferum L. var. melanotrichum (Schlecht.) Schelpe, 799, 4, 6
 reptans Swartz, 798, 6

CYATHEACEAE

- Cyathea
 capensis (L. f.) J.E. Sm., 770, 6
 dregei Kunze, Ripley 57, 1

DENNSTAEDTIACEAE

- Blotiella glabra (Bory) A.F. Tryon, 1089, 4
 Histiopteris incisa (Thunb.) J. Sm., 874, 1
 Hypolepis sparsisora (Schrad.) Kuhn, 608, 2, 3, 6
 Pteridium aquilinum (L.) Kuhn, Graham 83, 1, 2

VITTARIACEAE

Vittaria isoetifolia Bory, O. Seele s.n., 4

ADIANTACEAE

- Adiantum
 capillus-veneris L., 856, 6
 poiretii Wikstr. var. poiretii, 1151, 6
 raddianum Presl, 809, 6
 Cheilanthes
 bergiana Schlecht. ex Kunze, 786, 3, 6
 concolor (Langsd. & Fisch.) Schelpe & N.C. Anthony, 778, 3
 eckloniana (Kunze) Mett., 1152, 2
 quadripinnata (Forssk.) Kuhn, Rycroft 548, 1
 viridis (Forssk.) Swartz var. macrophylla (Kunze) Schelpe & N.C. Anthony, 605, 3
 Pellaea calomelanos (Swartz) Link, 1071, 1
 Pteris
 buchananii Bak. ex Sim, Ripley 53, 3
 catoptera Kunze, 611, 3
 cretica L., 973, 6
 dentata Forssk., Stanton 89, 3

POLYPODIACEAE

- Loxogramme lanceolata (Swartz) Presl, 780, 4
 Pleopeltis
 macrocarpa (Bory ex Willd.) Kaulf., 779, 4
 schraderi (Mett.) Tardieu, 728, 4

Polypodium polypodioides (L.) Hitchc. subsp. ecklonii (Kunze) Schelpe, 739, 4

ASPLENIACEAE

Asplenium

- aethiopicum (Burm. f.) Becherer, 776, 3, 6
 boltonii Hook. ex Schelpe, 904, 6
 dregeanum Kunze, 1082, 6
 erectum Bory ex Willd. var. erectum, 769, 3, 6
 lobatum Pappe & Rawson, 1033, 3
 lunulatum Swartz, 1064, 3
 monanthii Hieron., 863, 6
 preussii Hieron., 865, 6
 rutifolium (Berg.) Kunze, 607, 4
 splendens Kunze, 627, 3, 6
 theciferum (Kunth) Mett. var. concinnum (Schrad.) Schelpe, 783, 4

THELYPTERIDACEAE

Thelypteris

- dentata (Forssk.) E. St. John, 868, 6
 gueinziana (Mett.) Schelpe, 867, 6
 pozoi (Lag.) Morton, 748, 6

ATHYRIACEAE

- Athyrium scandicinum (Willd.) Presl, 905, 6
 Cystopteris fragilis (L.) Bernh., 777, 6
 Lunathyrium japonicum (Thunb.) Kurata*, 784, 6

LOMARIOPSIDACEAE

Elaphoglossum

- acrostichoides (Hook. & Grev.) Schelpe, 1140, 3
 aubertii (Desv.) T. Moore, 768, 3, 6

ASPIDIACEAE

- Arachniodes foliosa (C. Chr.) Schelpe, 864, 6
 Ctenitis lanuginosa (Willd. ex Kaulf.) Copel., 860, 4
 Dryopteris
 athamantica (Kunze) Kuntze, Graham 67, 3
 inaequalis (Schlecht.) Kuntze, 811, 3
 Polystichum
 pungens (Kaulf.) Presl, 610, 3
 transvaalense N.C. Anthony, 856, 6

BLECHNACEAE

Blechnum

- australe L., 1137, 3
 capense Burm. f., 806, 1
 giganteum (Kaulf.) Schlecht., 775, 6
 inflexum (Kunze) Kuhn, 880, 1
 tabulare (Thunb.) Kuhn, 933, 1

GYMNOSPERMAE

ZAMIACEAE

Encephalartos altensteinii Lehm., Rycroft (1941), 1

PODOCARPACEAE

Podocarpus

- falcatus (Thunb.) R. Br. ex Mirb., Hilliard 2026, 5
 henkelii Stapf ex Dallim. & Jacks., Sim 19014, 5
 latifolius (Thunb.) R. Br. ex Mirb., Sim 19019, 5

ANGIOSPERMAE—MONOCOTYLEDONEAE

POACEAE

- Microstegium nudum (Trin.) A. Camus, 734, 3
 Paspalum urvillei Steud., 816, 6
 Oplismenus hirtellus (L.) Beauv., 725, 3
 Panicum
 aequinerve Nees, Moll 2872, 3
 deustum Thunb., Moll 1672, 3
 Setaria
 megaphylla (Steud.) Dur. & Schinz, 750, 1, 2
 sphacelata (Schumach.) Moss, 844, 1, 2, 6
 Prosphytochloa prehensilis (Nees) Schweick., 724, 4
 Agrostis lachnantha Nees, 751, 3, 6
 Pseudobromus silvaticus K. Schum., 726, 3

CYPERACEAE

- Cyperus
 albostrigatus *Schrad.*, 861, 3
 distans *L. f.*, 752, 3
Pycneus cimicinus (Presl) Pfeiffer, 615, 6
 Mariscus
 keniensis (*Kuekenh.*) *Hooper*, 616, 6
 thunbergii (*Vahl.*) *Schrad.*, 823, 1, 2
Kyllinga elatior Kunth., 738, 6
 Isolepis
 cernua (*Vahl*) *Roem. & Schult.*, 1097, 1, 2
 costata (*Boeck.*) *A. Rich.* var. *macra (Boeck.) B.L. Burt.*, 1099, 6
 sepulcralis *Steud.*, *Moll* 1076, 6
 Schoenoxiphium
 lehmannii (*Nees*) *Steud.*, 1060, 3
 rufum *Nees*, 849, 1, 3
 Carex
 acutiformis *Ehrh.*, *Bourquin* 344, 3
 mossii *Nelmes*, 909, 1, 2

ARACEAE

- Zantedeschia aethiopica (L.) Spreng.*, 1118, 1, 2, 6

JUNCACEAE

- Juncus
 dregeanus *Kunth*, 1096, 1, 2
 effusus *L.*, 791, 6
 lomaphyllus *Spreng.*, 794, 6
Luzula africana Drège ex Steud., 1031, 1

LILIACEAE

- Littonia modesta Hook.*, 1153, 1
 Chlorophytum
 comosum (*Thunb.*) *Jacq.*, 1116, 3
 krookianum *Zahlbr.*, *Moll* 3470, 3
 Kniphofia
 buchananii *Bak.*, *Moll* 3457, 2
 tysonii *Bak.* subsp. *tysonii*, 795, 2
Dracaena hookeriana K. Koch. *Rycroft* (1941), 1, 3
 Protasparagus
 aethiopicus (*L.*) *Oberm.*, 970, 1, 2
 natalensis (*Bak.*) *Oberm.*, 1030, 5
 setaceus (*Kunth*) *Oberm.*, 670, 3
 sp., 561, 3
Myrsiphyllum asparagoides (L.) Willd., 995, 1, 2
Behnia reticulata (Thunb.) Didr., 961, 4

HAEMODORACEAE

- Barberetta aurea Harv.*, 1136, 6

AMARYLLIDACEAE

- Scadoxus puniceus (L.) Friis & Nordal*, 972, 1, 6
Clivia miniata Regel, 993, 4
Nerine appendiculata Bak., 843, 1

VELLOZIACEAE

- Talbotia elegans Balf.*, 651, 3, 6

DIOSCOREACEAE

- Dioscorea
 cotinifolia *Kunth*, 1161, 1
 dregeana (*Kunth*) *Dur. & Schinz* var. *dregeana*, 1075, 4

IRIDACEAE

- Dietes
 butcheriana *Gerstner*, *Moll* 3454, 6
 iridioides (*L.*) *Sweet ex Klatt*, 1133, 3
Crocasmia aurea Planch., 556, 1, 2, 6

CANNACEAE

- Canna indica L.**, 745, 6

ORCHIDACEAE

- Stenoglottis fimbriata Lindl.*, 555, 4
Holothrix orthoceras (Harv.) Reichb. f., O'Connor 349, 3
 Disperis
 fanniniae *Harv.*, 554, 3
 lindleyana *Reichb. f.*, 668, 3
Liparis bowkeri Harv., 848, 3

Polystachya

- ottoniana *Reichb. f.*, 1050, 4, 5
 pubescens *Reichb. f.*, 1081, 4, 5
Bulbophyllum scaberulum Rolfe, in cultivation at NU, 4
 Angraecum
 conchiferum *Lindl.*, *Moll* 3368, 4, 5
 pusillum *Lindl.*, in cultivation at NU, 4, 5
 sacciferum *Lindl.*, in cultivation at NU, 4, 5
Tridactyle bicaudata (Lindl.) Schltr., in cultivation at NU, 4, 5
Diaphanathe caffra (H. Bol.) Linder, 1117, 4
 Mystacidium
 flanaganii (*H. Bol.*) *H. Bol.*, 543, 4
 gracile (*Reichb. f.*) *Harv.*, 1107, 1, 4
 venosum *Harv. ex Rolfe*, 926, 4

ANGIOSPERMAE—DICOTYLEDONEAE

PIPERACEAE

- Piper capense L. f.*, 871, 6
 Peperomia
 retusa (*L. f.*) *A. Dietr.* var. *retusa*, 916, 4
 tetraphylla (*G. Forst.*) *Hook. & Arn.*, 917, 4

ULMACEAE

- Celtis africana Burm. f.*, 1047, 5

MORACEAE

- Ficus
 craterostoma *Warb. ex Mildbr. & Burr.*, 581, 5
 sur *Forssk.*, 969, 1

URTICACEAE

- Laportea*
 alatipes *Hook. f.*, *Moll* 3522, 3
 peduncularis (*Wedd.*) *Chew* subsp. *peduncularis*, 743, 6
Droguetia ambigua Wedd., 1146, 2, 3
Didymodoxa caffra (Thunb.) Friis & Wilmot-Dear, Hilliard & Burt
 11887, 1

VISCACEAE

- Viscum nervosum Hochst. ex A. Rich.*, 538, parasite on *Monanthes affinis*

SANTALACEAE

- Osyridicarpus schimperianus (Hochst. ex A. Rich.) A. DC.*, 920, 2, 6

POLYGONACEAE

- Rumex* sp. cf. *woodii N.E. Br.*, 1080, 6
 Polygonum
 nepalense *Meisn.**, 623, 6
 salicifolium *Willd.*, 618, 6

AMARANTHACEAE

- Achyranthes sicula (L.) All.**, 760, 6

CARYOPHYLLACEAE

- Stellaria sennii Chiov.**, 990, 2, 6
Drymaria cordata (L.) Willd. subsp. *diandra (Blume) J. Duke*, 797, 3, 6

RANUNCULACEAE

- Clematis brachiata Thunb.*, *Moll* 3526, 5
Ranunculus multifidus Forssk., 1079, 6
Thalictrum rhyneocarpum Dill. & Rich., *Moll* 3528, 6

MENISPERMACEAE

- Cissampelos torulosa E. Mey. ex Harv.*, 789, 4

ANNONACEAE

- Monanthes affinis caffra (Sond.) Verdc.*, 1093, 5

TRIMENIACEAE

- Xymalos monospora (Harv.) Baill.*, 629, 5

LAURACEAE

- Ocotea bullata (Burch.) Baill.*, *Moll* 3478, 5
 Cryptocarya
 myrtifolia *Stapf*, 583, 4, 5
 woodii *Engl.*, 584, 4, 5

PAPAVERACEAE

Papaver aculeatum Thunb*, 1119, 6

BRASSICACEAE

Cardamine africana L., 907, 6

CRASSULACEAE

Crassula

- inadensis* Schönl. & Bak.f., 1134, 3, 6
pellucida L. subsp. *alsinoides* (Hook.f.) Toelken, 757, 6
 sp. aff. *alba* Forssk., 1174, 1

ESCALLONIACEAE

Choristylis rhamnoides Harv., 761, 4, 6

PITTOSPORACEAE

Pittosporum viridiflorum Sims, Moll 3544, 1, 5

ROSACEAE

Rubus

- cuneifolius* Pursh*, 1073, 1, 2
rosifolius J.E. Sm*, 1058, 1, 2
Duchesnea indica (Andr.) Focke*, 746, 6
Alchemilla kiwuensis Engl., 788, 6
Leucosidea sericea Eckl. & Zeyh., 977, 1
Cliffortia
linearifolia Eckl. & Zeyh., 1054, 1
nitidula (Engl.) R.E. & Th. Fries Jr, 982, 6
Prunus africana (Hook. f.) Kalkm., 1158, 5

CONNARACEAE

Cnestis natalensis (Hochst.) Planch. & Sond., 1001, 5

FABACEAE

Acacia

- ataxacantha* DC., Getliffe 219, 1
mearnsii De Wild*, 981, 1, 2, 6
melanoxylon R. Br*, Ross 2088, 1, 2
Calpurnia aurea (Ait.) Benth., 1040, 2, 5, 6
Crotalaria capensis Jacq., 983, 6
Argyrolobium tomentosum (Andr.) Druce, 821, 1, 2, 3, 6
Indigofera natalensis H. Bol., 922, 4
Psoralea pinnata L., 925, 1
Desmodium repandum (Vahl) DC., 612, 1, 2, 6
Dalbergia obovata E. Mey., 1041, 5
Dumasia villosa DC. var. *villosa*, 754, 2, 6

GERANIACEAE

Geranium

- flanaganii* Knuth, Hilliard & Burt 13485, 2
natalense Hilliard & Burt, 1051, 1
schlechteri Knuth, Hilliard & Burt 13489, 1, 2

OXALIDACEAE

Oxalis

- corniculata* L*, 758, 6
obliquifolia Steud. ex Rich., 1052, 1

RUTACEAE

- Zanthoxylum davyi* (Verdoorn) Waterm., 1002, 5
Calodendrum capense (L. f.) Thunb., 997, 5
Orcia bachmannii (Engl.) Verdoorn, 1090, 4
Vepris lanceolata (Lam.) G. Don, 1078, 5
Clausena anisata (Willd.) Hook. f. ex Benth., 1087, 4, 5

PTAEROXYLACEAE

Ptaeroxylon obliquum (Thunb.) Radlk., 979, 5

MELIACEAE

Ekebergia capensis Sparrm., 1027, 5

POLYGALACEAE

Polygala confusa MacOwan, 1024, 1, 2, 6

EUPHORBIACEAE

Andrachne ovalis (Sond.) Muell. Arg., Bayer 687, 4

Drypetes

- gerrardii* Hutch., Bayer 1414, 1, 4
natalensis (Harv.) Hutch., 1076, 4
Micrococca capensis (Baill.) Prain, 593, 4, 6

Clutia

- katharinae* Pax, 1039, 1
pulchella L. var. *franksiae* Prain, 803, 2, 4
Suregada procera (Prain) Croiz., Smook 655, 4
Excoecaria simii (Kuntze) Pax, Moll 3535, 4
Euphorbia
dumosa E. Mey. ex Boiss., 1053, 1, 2
epicyparissias E. Mey. ex Boiss., Hilliard & Burt 10141, 1, 2
kraussiana Bernh. var. *kraussiana*, 626, 1, 2, 6

CALLITRICHACEAE

Callitriche sp. cf. *compressa* N.E. Br., 1049, 6

ANACARDIACEAE

- Harpephyllum caffrum* Bernh. ex Krauss, 1148, 5
Protorhus longifolia (Bernh.) Engl., 964, 1
Rhus
chirindensis Bak. f., 1069, 5
dentata Thunb., 1056, 1
pyroides Burch. var. *gracilis* (Engl.) Burt Davy, 1059, 1

AQUIFOLIACEAE

Ilex mitis (L.) Radlk. var. *mitis*, 1067, 5, 6

CELASTRACEAE

Maytenus

- acuminata* (L. f.) Loes., 986, 4
heterophylla (Eckl. & Zeyh.) N.K.B. Robson, 1028, 1
mossambicensis (Klotzsch) Blakelock var. *mossambicensis*, 560, 4
undata (Thunb.) Blakelock, 1029, 1

Cassine

- papillosa* (Hochst.) Kuntze, 1004, 4
tetragona (L. f.) Loes., 590, 5, 6

ICACINACEAE

Apodytes dimidiata E. Mey. ex Arn. subsp. *dimidiata*, 591, 5

SAPINDACEAE

Allophylus

- dregeanus* (Sond.) De Winter, 585, 2, 4
melanocarpus (Sond.) Radlk., 872, 5

MELIANTHACEAE

Bersama tysoniana Oliv., 1139, 1

GREYIACEAE

Greyia sutherlandii Hook. & Harv., 1036, 1

BALSAMINACEAE

Impatiens hochstetteri Warb. subsp. *hochstetteri*, 540, 3

RHAMNACEAE

- Scutia myrtina* (Burm.f.) Kurz, 1066, 5
Rhamnus prinoides L'Hérit., 927, 1, 4
Phyllica paniculata Willd., 1037, 1
Helinus integrifolius (Lam.) Kuntze, R. McMahon s.n., 5

VITACEAE

Rhoicissus

- rhomboidea* (E. Mey. ex Harv.) Planch., 974, 5
tomentosa (Lam.) Wild & Drum., 1074, 5
Cyphostemma sp. cf. *cirrhosum* (Thunb.) Desc. ex Wild & Drum., 764, 4

TILIACEAE

- Sparrmannia ricinocarpa* (Eckl. & Zeyh.) Kuntze, 1155, 1
Grewia occidentalis L., 1122, 5
Triumfetta annua L., 613, 6

MALVACEAE

- Abutilon sonneratianum* (Cav.) Sweet, 807, 2
Hibiscus pedunculatus L. f., 592, 1, 4

STERCULIACEAE

Dombeya tiliacea (Endl.) Planch., 938, 1

OCHNACEAE

Ochna

- arborea* Burch. ex DC., 968, 5
natalitia (Meisn.) Walp., 978, 5
serrulata (Hochst.) Walp., 559, 4

- VIOLACEAE
Rinorea angustifolia (Thouars) Baill., 1032, 4
- FLACOURTIACEAE
Rawsonia lucida Harv. & Sond., 1167, 4
Kiggelaria africana L., Moll 3492, 5
Scolopia zeyheri (Nees) Harv., Wells 1870, 5
Trimeria grandifolia (Hochst.) Warb., Moll 3493, 5, 6
Dovyalis
lucida Sim., 988, 4
rhamnoides (Burch. ex DC.) Harv., 987, 4
Casearia gladiiformis Mast., 582, 5
- PASSIFLORACEAE
Passiflora edulis Sims*, 1073, 1
- ACHARIACEAE
Ceratiosicyos laevis (Thunb.) Meeuse, Hilliard 5057, 4, 6
- BEGONIACEAE
Begonia
geranioides Hook. f., Hilliard 2583, 3, 6
sutherlandii Hook. f., 723, 6
- OLINIACEAE
Olinia emarginata Burt Davy, Moll 3371, 5
- THYMELAEACEAE
Peddiea africana Harv., 994, 4
Gnidia pulchella Meisn., 1057, 1
Englerodaphne pilosa Burt Davy, 600, 4, 6
Dais cotinifolia L., 587, 1, 2, 4
- RHIZOPHORACEAE
Cassipourea
gerrardii (Schinz) Alston, 1070, 4
gummiflua Tul. var. *verticillata* (N.E. Br.) J. Lewis, 962, 1
- COMBRETACEAE
Combretum
edwardsii Exell, 1144, 5
kraussii Hochst., 1065, 5
Quisqualis parviflora Gerr. ex Harv., 998, 5
- MYRTACEAE
Eugenia zuluensis Duemmer, 1068, 5
Syzygium gerrardii Harv. ex Hook. f.) Burt Davy, Moll 3539, 5
Eucalyptus grandis Hill ex Maid*, 980, 1, 2
- ONAGRACEAE
Oenothera erythrosepala Borbas*, 923, 1
- ARALIACEAE
Schefflera umbellifera (Sond.) Baill., Sim 19385, 5
Cussonia sphaerocephala Strey, Moll 3436, 5
- APIACEAE
Hydrocotyle americana L*, 818, 2, 6
Centella asiatica (L.) Urb., 620, 3, 6
Sanicula elata Buch.-Ham., 652, 3, 6
Conium fontanum Hilliard & Burt var. *silvaticum* Hilliard & Burt, 773, 6
Heteromorpha trifoliata (Wendl.) Eckl. & Zeyh., 1156, 1
- MYRSINACEAE
Maesa lanceolata Forssk. var. *rufescens* (A. DC.) Taton, 588, 1
Rapanea melanophloeos (L.) Mez. Wells 1923, 5
- SAPOTACEAE
Bequaertiodendron natalense (Sond.) Heine & J.H. Hemsl., 1091, 4
- EBENACEAE
Euclea crispa (Thunb.) Guerke var. *crispa*, Rycroft (1941), 1, 2
Diospyros
lycioides Desf. subsp. *sericea* (Bernh.) De Winter, 1083, 1
whyteana (Hiern) F. White, 1006, 4
- OLEACEAE
Chionanthus foveolata (E. Mey.) Stearn subsp. *foveolata*, Drewes s.n., 5
- Olea capensis* L. subsp. *macrocarpa* (C.H. Wr.) Verdoorn, Moll 3489, 5
Jasminum streptopus E. Mey. var. *transvaalensis* (S. Moore) Verdoorn, Moll 3547, 1, 2, 4
- LOGANIACEAE
Strychnos sp. c.f. *usambarensis* Gilg, 1094, 5
Nuxia floribunda Benth., 1077, 1, 5
Buddleja
dysophylla (Benth.) Radlk., 1046, 4
pulchella N.E. Br., 589, 4
salviifolia (L.) Lam., 978, 1, 2
- APOCYNACEAE
Carissa bispinosa (L.) Desf. ex Brenan var. *acuminata* (E. Mey.) Codd, 996, 4
Strophanthus speciosus (Ward & Harv.) Reber, 537, 4
- ASCLEPIADACEAE
Secamone gerrardii Harv. ex Benth., 999, 2, 4, 5
Riocreuxia torulosa Decne., 732, 4
- CONVOLVULACEAE
Cuscuta campestris Yunker, 1168, 1
- VERBENACEAE
Verbena bonariensis L*, 906, 6
Clerodendrum glabrum E. Mey. var. *glabrum*, Rycroft (1941), 5
- LAMIACEAE
Leonotis ocyimifolia (Burm. f.) Iwarsson var. *raineriana* (Visiani) Iwarsson, 819, 2
Stachys
aethiopica L., 928, 3
caffra E. Mey. ex Benth., Hilliard 2584, 1, 2
tubulosa MacOwan, 602, 3, 6
Mentha aquatica L., 737, 1, 2
Plectranthus
dolichopodus Briq., 604, 3, 6
elegantulus Briq., 614, 3
fruticosus L'Hérit., 601, 4
laxiflorus Benth., 603, 3, 6
rehmannii Guerke, 730, 6
- SOLANACEAE
Physalis peruviana L*, 965, 1, 2
Solanum
acanthoideum E. Mey., 814, 1
aculeastrum Dun., 1142, 1
aculeatissimum Jacq., 820, 1, 2
didymanthum Dun. var. *pluriflorum* Dun., 813, 2
giganteum Jacq., 812, 2
mauritanium Scop*, 963, 1, 2, 6
nigrum L*, 1132, 6
- SCROPHULARIACEAE
Nemesia silvatica Hilliard & Burt, 1034, 6
Diclis reptans Benth., 991, 6
Halleria lucida L., 967, 1, 5
Phygellus aequalis Harv. ex Hiern, 1038, 1
Bowkeria verticillata (Eckl. & Zeyh.) Schinz, 762, 6
Sutera floribunda (Benth.) Kuntze, Ripley 22, 1
- SELAGINACEAE
Selago hyssopifolia E. Mey., Gordon-Gray 6371, 1
- GESNERIACEAE
Streptocarpus
fanninae Harv. ex C.B. Cl., 1127, 1
gardenii Hook., 765, 3
grandis N.E. Br. subsp. *grandis*, 766, 3, 6
polyanthus Hook. subsp. *verecundus* Hilliard, 931, 3, 6
silvaticus Hilliard, 669, 3, 6
- ACANTHACEAE
Thunbergia
natalensis Hook., 541, 1, 2, 3
purpurata Harv. ex C.B. Cl., 919, 2
Sclerochiton harveyanus Nees, 763, 2

Hypoestes

- aristata (Vahl) Soland. ex Roem. & Schult., 882, 1, 3
 triflora (Forssk.) Roem. & Schult., 619, 3, 6
 Isoglossa hypoestiflora Lindau, 1143, 1
 Justicia campylostemon (Nees) T. Anders., 562, 4

RUBIACEAE

- Conostomium natalense (Hochst.) Brem. var. glabrum Brem., 558, 3
 Burchellia bubalina (L. f.) Sims, 975, 5, 6
 Gardenia thunbergia L. f., 1044, 4
 Hyperacanthus amoenus (Sims) Bridson, 1092, 4
 Rothmannia
 capensis Thunb., Moll 3511, 5
 globosa (Hochst.) Keay, 1043, 4
 Oxyanthus speciosus DC. subsp. gerrardii (Sond.) Bridson, 1095, 2
 Tricalysia
 capensis (Meisn.) Sim, 976, 4
 lanceolata (Sond.) Burt Davy, 1042, 4
 Canthium
 ciliatum (Klotzsch) Kuntze, 1072, 4
 mundianum Cham. & Schlecht., Moll 3494, 4
 pauciflorum (Klotzsch) Kuntze, 1063, 4
 spinosum (Klotzsch) Kuntze, 1138, 1
 Psydrax locuples (K. Schum.) Bridson, Moll 3485, 4
 Pavetta lanceolata Eckl., 856, 4
 Galopina circaeoides Thunb., 621, 1, 2

CUCURBITACEAE

- Zehneria scabra (L. f.) Sond. subsp. scabra, 932, 2, 6
 Momordica foetida Schum., Mrs T. Collins s.n., 1
 Coccinia palmata (Sond.) Cogn., 847, 1, 2

CAMPANULACEAE

- Wahlenbergia madagascariensis A. DC., 1169, 1

LOBELIACEAE

- Cyphia aspergilloides E. Wimm., Stewart 1789, 6

- Lobelia malowensis E. Wimm., 653, 6
 Monopsis stellarioides (Presl) Urb. subsp. stellarioides, 729, 1, 2, 6

ASTERACEAE

- Vernonia
 anisochaetoides Sond., 985, 1
 mespilifolia Less., Moll 3525, 4
 Conyza
 scabrida DC., 1154, 1
 sumatrensis (Retz.) E.H. Walker*, 755, 6
 Denekia capensis Thunb., 1086, 1, 2
 Achyrocline stenoptera (DC.) Hilliard & Burt., 1035, 1, 2
 Helichrysum
 cooperi Harv., 747, 1, 2
 mundii Harv., 845, 2
 Printzia auriculata Harv., Hilliard 5059, 1
 Spilanthes mauritiana (Pers.) DC., 822, 6
 Galinsoga parviflora Cav., 736, 2
 Phymaspermum acerosum (DC.) Källersjö, Hilliard 4857, 1
 Matricaria nigellifolia DC. var. tenuior DC., 753, 1, 2
 Hilliardia zuurbergensis (Oliv.) B. Nord., 787, 1, 2
 Crassocephalum crepidioides (Benth.) S. Moore*, 727, 6
 Senecio
 deltoideus Less., 881, 2, 4
 lygodes Hiern, 853, 6
 macroglossoides Hilliard, 852, 2, 4
 madagascariensis Poir., 790, 1, 6
 panduriformis Hilliard, 721, 2
 polyanthemoides Sch. Bip., 625, 1, 2
 tamoides DC., 804, 1, 2
 Mikaniopsis cissampelina (DC.) C. Jeffrey, 937, 1
 Osteospermum herbaceum L. f., Hilliard 2911, 1
 Berkheya
 bipinnatifida (Harv.) Roessl. subsp. bipinnatifida, 722, 1, 2
 debilis MacOwan, 744, 6