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A SYSTEMATIC CHECK LIST OF FLOWERING PLANTS COLLECTED IN THE ADDO ELEPHANT NATIONAL PARK

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and

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Abstract – The vegetation and botanical exploration of the Park are discussed briefly. The 301 species of flowering plants recorded in the Park are listed in a systematic check list. Of the 54 families recorded, Compositae (39 spp.), Gramineae (32 spp.), Liliaceae (28 spp.) and Aizoaceae (28 spp.) are the best represented.

Introduction

The Addo Elephant National Park was proclaimed in 1931 for the protection of one of the two remnant elephant populations in the Cape Province, but it is the vegetation which lends the Park its unique character. The Addo Bush is a practically impenetrable scrub consisting mainly of *Portulacaria afra*, *Schotia afra* and *Euclea undulata*, while the thorny shrubs *Azima tetracantha* and *Capparis sepiaria* var. *citrifolia* and the lianes *Sarcostemma viminalis* and *Rhoicissus digitata* are also common.

The recording and cataloguing of species occurring within protected areas is one of the primary tasks of any nature conservation authority. Check lists of the flowering plants of the following national parks have been published: Kruger National Park (van der Schijff 1969; Brynard 1961; van Wyk 1971), Kalahari Gemsbok National Park (Leistner 1959), Golden Gate Highlands National Park (Roberts 1969) and Mountain Zebra National Park (Penzhorn 1970).

Physiography

The Park is situated at 33°31'S, 25°45'E and has an area of 7 735 ha. The altitude of the Park varies from 341 m on Zuurkop in the east to 75 m at the southwestern boundary. Except for Zuurkop in the central eastern part, the remainder of the Park is a series of low undulating hills with an altitude of 75–125 metres. In the north drainage is toward the Coerney River and in the south toward the Sundays River.

At the Park headquarters on the northern boundary the mean annual rainfall was 442 mm (range 261 mm–550 mm) during 1963–71.

For a detailed description of the geology of the Park, see Toerien (1972).

Vegetation

Acocks (1953) regarded the Addo Bush as a Karroid veld type and described the vegetation as follows: "... a short, dense, dry forest, dominated by such species as *Schotia speciosa*, *S. latifolia*, *Sideroxylon inerme*, *Olea africana*, *Cussonia spicata* and *C. kraussiana*, with an abundance of shrubs and climbers, e.g. *Azima tetraantha*, *Portulacaria afra*, *Rhoiacarpos capensis*, *Plumbago capensis*, *Rhus longispina*, *Scutia myrtina*, *Rhoicissus digitata*, *Sarcostemma viminale* and *Capparis citrifolia*". He considered the Addo Bush to be derived from the Alexandria Forest, a Coastal Tropical Forest Type, rather than from the Valley Bushveld.

Archibald (1955) distinguished five plant communities. Except where indicated otherwise, these communities occur on sandstone and mudstone of the Sundays River Stage, Uitenhage Series.

1. Spekboomveld – this covers more than 90 per cent of the total area of the Park and is dominated by *Portulacaria afra*. In dense Spekboomveld karroid shrubs are absent and the bush and tree cover is thickly matted from one to four metres above ground level.

2. Karoo-bushveld – an open community composed of low karroid shrubs. The most frequent species are *Pentzia globosa*, *Justicia orchioides*, *Lampranthus productus* and two *Ruschia* species. This plant community occurs in the northeastern sector (antelope camp) and in the south-western corner near Caesar's Dam (rhino camp and surroundings).

3. Mixed Shrub and Grassveld – restricted to a small area on Zuurkop consisting of crystalline or sandy limestone and pebble beds of the Alexandria Formation. A mixed community of small shrubs and grasses with *Polygala microlopha*, *Nenax microphylla*, *Anthospermum ciliare*, *Agathosma capensis* and *Walafriida decipiens* are the more common shrubs. The grasses are represented by *Eragrostis capensis* and *Sporobolus africanus*.

4. Bontveld – occurs on Zuurkop on windblown sand. Consists of circular clumps of bushes dispersed in grassland or a mixed grass and low shrub community. The bush clumps mainly contain *Scutia myrtina*, *Grewia occidentalis*, *Diospyros pallens*, *Maytenus heterophylla*, *Ehretia rigida*, *Rhus incisa* var. *obovata* and *R. longispina*. The surrounding mixed grass and low shrub community contains *Themeda triandra*, *Panicum deustum*, *P. maximum*, *Digitaria eriantha*, *Eleusine indica*, *Eragrostis capensis*, *Eustachys mutica*, *Heteropogon contortus* and *Cynodon dactylon*, while the shrubs *Chascanum dehiscentis* and *Pelargonium multicaule* are locally abundant.

5. Coastal Bush – occurs only in two kloofs on the eastern side of Zuurkop. Characteristic tree species are *Sideroxylon inerme*, *Schotia afra* and *Pterocelastrus tricuspidatus*.

Botanical exploration

Archibald made a detailed study of the vegetation in 1950–52. A reference herbarium was started in the Park by Brynard, who also

collected most of the specimens currently in the herbarium during 1952–55. Barnard collected in the Park in 1959, but the next detailed collecting was by Liebenberg in the early 1960's. Some further specimens were collected by the authors in 1971–72 during a study of the influence of the elephants on the vegetation (Penzhorn, Robbertse and Olivier 1974). Duplicates of the collection housed in the reference herbarium in the Park have been deposited at the National Herbarium, Pretoria.

Systematic list

The systematic list is arranged according to Phillips (1951). The collectors' names have been abbreviated as follows:

AMB – A.M. Brynard PJB – P.J. Barnard
LCCL – L.C.C. Liebenberg BLP – B.L. Penzhorn

Species recorded by Archibald but not represented in the herbarium are marked by an asterisk.

A total of 301 species representing 54 families was recorded. The best represented families were Compositae (39 spp.), Gramineae (32 spp.), Liliaceae (28 spp.) and Aizoaceae (28 spp.).

GRAMINEAE

Cymbopogon plurinodis (Stapf) Stapf ex Burtt Davy AMB 361; LCCL 6306.
**Heteropogon contortus* (L.) Beauv. ex Roem. & Schult. – on limestone plateau, Bontveld.

Themeda triandra Forsk. LCCL 7715 – common on Zuurkop and also in rhino camp.

Tragus racemosus (L.) All. LCCL 7684 – at the rest camp.

Panicum deustum Thunb. AMB 420; LCCL 6313 – in the antelope camp and also in the Spekboomveld.

**P. maximum* Jacq. – limestone plateau, Bontveld.

P. stapfianum Fourc. AMB 458; LCCL 7757 – common.

Digitaria eriantha Steud. AMB 348.

Setaria neglecta De Wit AMB 356 – in the antelope camp.

Ehrharta calycina J.E. Sm. LCCL 6221 – near Caesar's Dam; rare.

E. erecta Lam. PJB 523; LCCL 6307 – in the antelope camp where scrub was cleared.

Aristida diffusa Trin. var. *diffusa* LCCL 7718 – in sandy soil on Zuurkop.

Stipa dregeana Steud. var. *elongata* (Nees) Stapf AMB 428; LCCL 6303 – in antelope camp and also in Spekboomveld.

**Sporobolus africanus* (Poir.) Robyns & Tournay (= *S. capensis* Kunth) – Mixed Shrub and Grassveld and on limestone plateau in Bontveld.

S. fimbriatus Nees LCCL 7700 – in the rhino camp.

S. nitens Stent LCCL 7685 – between shrubs east of the rest camp. uncommon.

Karoochloa curva (Nees) Conert & Tuerpe (= *Danthonia curva* Nees) LCCL 7718A, 7722 – common on Zuurkop.

- Merxmuellera disticha* (Nees) Conert (≠*Danthonia disticha* Nees) LCCL 6656,7713 – common near Caesar's Dam and on Zuurkop.
- Pentaschistis angustifolia* (Nees) Stapf LCCL 7717 – on Zuurkop; protected by shrubs.
- P. jugorum* Stapf LCCL 6647 – near Caesar's Dam; uncommon.
- P. thunbergii* (Kunth) Stapf LCCL 7723 – annual; on Zuurkop;
- Cynodon dactylon* (L.) Pers. AMB 329.
- C. incompletus* Nees AMB 345; LCCL 6319.
- Triraphis andropogonoides* (Steud.) Phill. AMB 447.
- **Eragrostis capensis* (Thumb.) Trin. (= *E. brizoides* Nees) – Mixed Shrub and Grassveld and on limestone plateau in Bontveld.
- E. curvula* (Schrad.) Nees AMB 360, 457; PJB 580; LCCL 6308.
- E. obtusa* Munro ex Fical. & Hiern AMB 357, 424; LCCL 6308.
- **Eustachys mutica* (L.) Cufod. (= *E. paspaloides* (Vahl) Lanza & Mattei) – limestone plateau, Bontveld.
- **Eleusine indica* (L.) Gaertn. – limestone plateau, Bontveld.
- Plagiochloa uniolae* (L.f.) Adamson & Sprague LCCL 7714 – on Zuurkop; partially under shrub.
- Schismus barbatus* (L.) Thell. LCCL 6310, 6651 – a common pioneer near Caesar's Dam.
- **Poa* sp. – Spekboomveld.

CYPERACEAE

- Cyperus teneriffae* Poir. LCCL 7756 – in small shallow pan in the antelope camp.
- Mariscus marlothii* (Boeck.) C.B. Cl. (≠ *M. capensis* Schrad. var. *marlothii* C.B. Cl.) LCCL 7755 – common east of the rest camp.
- Scirpus muricinux* C.B. Cl. LCCL 7751 – at small shallow pan in the antelope camp.
- Bulbostylis humilis* Kunth LCCL 7745 – at dam north of rest camp.

COMMELINACEAE

- Commelina africana* L. PJB 569; LCCL 6628,7387 – yellow flower; common in antelope camp.
- C. benghalensis* L. PJB 570; LCCL 6629 – blue flower; common.
- Cyanotis speciosa* (L.f.) Hassk. (≠ *C. nodiflora* Kunth) LCCL 6668 – blue flower; common.

LILIACEAE

- Bulbine frutescens* (L.) Willd. LCCL 6630 – very common.
- B. narcissifolia* Salm-Dyck AMB 423.
- B. natalensis* Bak. LCCL 6665 – east of Zuurkop; rare.
- Trachyantha affinis* Kunth LCCL 6615 – small (15–22 cm tall); fairly common.

- T. saltii* (Bak.) Oberm. LCCL 7720 – on Zuurkop; abundant.
- Chlorophytum crispum* (Thunb.) Bak. LCCL 6618 – whitish flowers; fairly common in antelope camp.
- Eriospermum thyrsoideum* Bak. LCCL 7684A – at rest camp.
- Eriospermum* sp. AMB 421.
- **Aloe africana* Mill. – in Spekboomveld and on Zuurkop.
- Haworthia viscosa* Haw. LCCL 6244 – near Caesar's Dam; locally abundant.
- Albuca aurea* Jacq. LCCL 6610 – yellowish-green flowers.
- Albuca* sp. cf. *fastigiata* Dryand. LCCL 6609 – greenish-white flowers; common.
- Urginea altissima* (L.f.) Bak. AMB 366 – common in the antelope camp and west of the rest camp.
- Drimia alta* R.A. Dyer LCCL 7687A – near rest camp.
- Scilla ebracteata* Schönk. LCCL 6664 – greenish flowers; growing next to *Bulbine natalensis* in clump of bushes east of Zuurkop; also in Spekboomveld.
- Ornithogalum thyrsoides* Jacq. LCCL 6669 – common near Caesar's Dam.
- O. virens* Lindl. LCCL 7748 – north of rest camp.
- Lachenalia rosea* Andr. PJB 574 – near Zuurkop.
- Sansevieria aethiopica* Thunb. LCCL 6639 – very abundant in Spekboomveld.
- S. hyacinthoides* (L.) Druce (= *S. guineensis* (L.) Willd.) LCCL 7747 – very abundant in Spekboomveld.
- Asparagus africanus* Lam. PJB 528; BLP 6605 – on Zuurkop and in Spekboomveld; uncommon.
- A. asparagoides* (L.) Wight PJB 562; BLP 6606, 6611 – Caesar's Dam area and in Spekboomveld.
- A. crassicladius* Jessop BLP 6622 – Spekboomveld.
- A. racemosus* Willd. BLP 6619 – shrub with yellow and white flowers; common in Spekboomveld.
- A. striatus* (L.f.) Thunb. – Spekboomveld.
- A. suaveolens* Burch. AMB 448.
- A. subulatus* Thunb. BLP 6630 – Spekboomveld.
- Asparagus* sp. AMB 455.
- **Behnia reticulata* (Thunb.) Didr. – Spekboomveld.

AMARYLLIDACEAE

- Brunsvigia gregaria* R.A. Dyer AMB 426.
- Ammocharis coranica* (Ker-Gawl) Herb. LCCL 7708 – in the antelope camp; fairly common.
- Cyrtanthus affinis* R.A. Dyer LCCL 7758 – brownish-purple flowers with white stripes; very common in the antelope camp and elsewhere.
- Hypoxis argentea* Harv. ex Bak. LCCL 7726 – fairly common.
- H. filiformis* Bak. LCCL 6645 – yellow flowers; near Caesar's Dam.
- Cyanella lutea* L.f. LCCL 6620 – brownish-purple striped flowers; common.

IRIDACEAE

- Moraea stricta* Bak. (= *M. tritica* N.E. Br.) LCCL 6614 – light purple flowers; fairly common.
Tritonia securigera (Ait.) Ker AMB 353.
Gladiolus permeabilis Delaroché subsp. *edulis* (Burch. ex Ker) Oberm. (= *G. edulis* Burch. ex Ker) PJB 521 – near Caesar's Dam.

LORANTHACEAE

- Loranthus elegans* Cham. & Schlecht. LCCL 6281.
Viscum sp. cf. *eucleae* Eckl. & Zeyh. LCCL 6355.
**V. rotundifolium* L.f. – Spekboomveld.

POLYGONACEAE

- Emex australis* Steinh. LCCL 6250.
Polygonum aviculare L. AMB 324.

CHENOPODIACEAE

- Chenopodium album* L. BLP 6624 – Spekboomveld; in clearing in dense scrub.
C. mucronatum Thunb. LCCL 6648 – common near Caesar's Dam.
C. schraderianum Roem. & Schult. AMB 201.
Atriplex semibaccata R. Br. LCCL 7385 – in the antelope camp.
A. suberecta Verdoorn LCCL 6649 – common near Caesar's Dam.

PHYTOLACCAEAE

- Limeum telephioides* E. Mey. ex Fenzl var. *telephioides* LCCL 6631.

AIZOACEAE

- Pharnaceum dichotomum* L.f. LCCL 6325.
Galenia pubescens (Eckl. & Zeyh.) Druce AMB 331.
G. secunda (L.f.) Sond. LCCL 7384 – in the antelope camp.
Aizoon glinoides L.f. PJB 525 – in the antelope camp; uncommon.
A. rigidum L.f. var. *angustifolium* Sond. LCCL 6643 – yellow flowers; pioneer; common.
Bergeranthus longisepalus L. Bol. LCCL 7689 – yellow flowers; common near Caesar's Dam.
Carpobrotus dimidiatus (Haw.) L. Bol. LCCL 6349 – purple flowers; occasional in rhino camp.
Delosperma echinatum (Ait.) Schwant. LCCL 6226; BLP 6613 – small shrub; leaves bright green with small tubercles; in clearings in the Spekboomveld.
D. uniflorum L. Bol. LCCL 6358 – orange flowers; prostrate; common near Caesar's Dam.

- D. verecundum* L. Bol. LCCL 7694 – white flowers; prostrate; near eastern boundary of antelope camp.
- Delosperma* sp. cf. *ecklonis* (Salm-Dyck) Schwant. LCCL 6663 – white flowers; near water hole on Zuurkop.
- Delosperma* sp. cf. *litorale* (Kensit) L. Bol. LCCL 6625 – common and abundant; white flowers, semi-prostrate.
- Delosperma* sp. cf. *uniflorum* L. Bol. LCCL 6277
- Delosperma* sp. LCCL 6225, 6348, 6660, 7397, 7692.
- Delosperma* sp. BLP 6637 – small shrub *c* 20 cm tall; light yellow flowers; uncommon; on northern slope in extension of rhino camp.
- Disphyma* sp. LCCL 6624 – common and abundant; cream flowers; prostrate.
- Drosanthemum floribundum* (Haw.) Schwant. LCCL 6346 – shrub; purple flowers; prostrate or subscaudent; up to 45 cm tall.
- Drosanthemum* sp. BLP 6616 – Spekboomveld.
- Faucaria* sp. LCCL 7697 – yellow flowers; common.
- Lampranthus coccineus* (Haw.) N.E. Br. BLP 6617 – Spekboomveld.
- L. productus* (Haw.) N.E. Br. LCCL 6659, 7693, 7706 – white or purple flowers; prostrate; in antelope camp, on Zuurkop and the southern area of the Park; fairly common.
- Lampranthus* sp. cf. *productus* (Haw.) N.E. Br. LCCL 6661 – white flowers, at water hole on Zuurkop.
- Lampranthus* sp. LCCL 7707 – large purple flowers; on Zuurkop.
- Malephora* sp. LCCL 7395 – near Caesar's Dam; lemon-orange-coloured flowers.
- Mesembryanthemum aitonis* Jacq. (= *Cryophytum angulatum* (Thunb.) Schwant.) LCCL 7391 – cream-coloured flowers; prostrate; common.
- Mesembryanthemum* sp. LCCL 6335, 7688.
- Mestoklema* sp. cf. *tuberosum* (L.) N.E. Br. LCCL 6640 – small white flowers; uncommon; east of rest camp; grazed by antelope.
- Mestoklema* sp. LCCL 6344 – mauve flowers; shrublet *c* 35 cm tall; near rest camp; common.
- Psilocaulon granulicaule* (Haw.) Schwant. LCCL 6666 – sulphur yellow flowers; east of rest camp.
- P. liebenbergii* L. Bol. LCCL 6626, 7689 – shrublet with white or mauve flowers; very abundant near rest camp.
- Psiloçaulon* sp. LCCL 7390 – common near rest camp.
- Ruschia knysnana* (L. Bol.) L. Bol. LCCL 6293, 6296, 6347 – purple flowers; east of rest camp; common.
- R. orientalis* L. Bol. LCCL 7390, 7392 – shrublet with purple flowers; east of rest camp; very abundant.
- Ruschia* sp. LCCL 7695 – purple flowers; prostrate; locally abundant near Coerney Station.
- Ruschia* sp. LCCL 6229.
- Ruschia* sp. BLP 6639 – small shrub *c* 30 cm tall; small light yellow flowers; uncommon; on lime outcrop in extension of rhino camp.
- Ruschia* sp. BLP 6638 – prostrate; purple flowers; on lime outcrop in

extension of rhino camp; common.

Spalmanthus primulinus (L. Bol.) L. Bol. LCCL 7691 – cream-coloured flowers; creeper on shrubs; common and abundant.

S. radicans (L. Bol.) L. Bol. LCCL 7393 – prostrate.

Spalmanthus sp. LCCL 7389, 7396.

Trichodiadema sp. LCCL 7699 – near Caesar's Dam; rare.

PORTULACACEAE

Portulacaria afra Jacq. LCCL 6670 – pink flowers; dominant tree, occurs throughout the Park.

CRUCIFERAE

Heliophila suavissima Burch. ex DC. AMB 355; LCCL 7736A – on Zuurkop; uncommon.

Lepidium divaricatum Ait. subsp. *divaricatum* PJB 557 – in antelope camp.

Sisymbrium capense Thunb. LCCL 6294, 7734 – yellow flowers; on Zuurkop.

CAPPARIDACEAE

Capparis sepiaria L. var. *citrifolia* (Lam.) Toelken (= *C. citrifolia* Lam.) LCCL 6351 – shrub 1,5–2 m tall; white or greenish flowers; very common.

Cadaba aphylla (Thunb.) Wild PJB 565; LCCL 6616 – red flowers; fairly abundant throughout the Park.

**Maerua caffra* (DC.) Pax (= *M. triphylla* (Thunb.) Dur. & Schinz) – Spekboomveld.

CRASSULACEAE

Cotyledon campanulata Marloth LCCL 6623 – yellow flowers; common and abundant.

Cotyledon sp. cf. *orbiculata* L. LCCL 6356 – red and yellow flowers; c 150 cm tall; fairly common.

C. velutina Hook.f. LCCL 6357 – pink flowers, glandular and pubescent on outer surface; c 45–60 cm tall; near Caesar's Dam.

Cotyledon sp. AMB 365.

Crassula acutifolia Lam. LCCL 6635, 6637, 7750 – common and abundant; yellow flowers.

C. cephalophora Thunb. LCCL 6636 – common and abundant.

Crassula sp. cf. *cordata* Thunb. BLP 6632 – Spekboomveld.

C. corymbulosa Link & Otto BLP 6630 – Spekboomveld.

C. cultrata L. LCCL 6641; BLP 6628 – yellow flowers; fairly common east of the rest camp and also in the Spekboomveld.

C. ericoides Haw. AMB 440; PJB 563 – Bontveld.

C. expansa Dryand. in Ait. LCCL 6333, 7394 – shrublet c 20 cm tall; abundant east of the rest camp.

- C. lycopodioides* Lam. PJB 564 – Bontveld.
C. nemorosa (Eckl. & Zeyh.) Endl. ex Walp. LCCL 6340.
C. orbicularis L. (= *C. rosularis* Haw.) LCCL 6338.
C. perforata Thunb. PJB 571; LCCL 6671 – very common and abundant throughout.
 **C. portulacea* Lam. (= *C. argentea* Thunb.) – Spekboomveld.
C. radicans Haw. LCCL 7749 – north of the rest camp.
C. rubicaulis Eckl. & Zeyh. LCCL 7758A – uncommon.
C. spathulata Thunb. LCCL 6224; BLP 6621, 6636 – Spekboomveld.
C. tetragona L. BLP 6614 – Spekboomveld.
C. turrita Thunb. LCCL 6633 – Common and abundant.
Adromischus maculatus (Salm-Dyck) Lem. ex Berger LCCL 7702 – frequent in patches.

LEGUMINOSAE

- **Acacia karroo* Hayne – in front of the rest camp and in the antelope camp.
Schotia afra (L.) Thunb. AMB 202 – abundant in the Spekboomveld.
Lotononis trichopoda (E. Mey.) Benth. LCCL 7741 – on Zuurkop; fairly abundant.
L. umbellata (E. Mey.) Benth. LCCL 6328.
Lebeckia macrantha Harv. LCCL 6286.
L. psiloloba (E. Mey.) Walp. (= *L. cuspidosa* Druce) AMB 445.
Aspalathus lactea Thunb. subsp. *adelphea* (Eckl. & Zeyh.) R. Dahlgren PJB 543; LCCL 6654, 7705 – semi-prostrate shrub; yellow flowers; near Caesar's Dam.
Melolobium candicans (E. Mey.) Eckl. & Zeyh. AMB 444; PJB 547 – Bontveld.
Tephrosia capensis (Jacq.) Pers. LCCL 7740 – red flowers; on Zuurkop; abundant.
Lessertia sp. PJB 524 – prostrate; antelope camp; uncommon.
Dolichos hastaeformis E. Mey. LCCL 6613 – purple flowers; eastern part of antelope camp; uncommon.

GERANIACEAE

- Monsonia ovata* Cav. LCCL 6288.
Pelargonium inquinans (L.) L'Hérit. ex Ait. AMB 450; PJB 576; LCCL 6255, 6667 – tall shrub with red flowers; near Caesar's Dam; uncommon.
P. lateripes L'Hérit BLP 6635 – mauve flowers; Spekboomveld.
 **P. multicaule* Jacq. – limestone plateau; Bontveld.,
P. odoratissimum (L.) Ait. LCCL 6339.
P. peltatum (L.) Ait. AMB 203; PJB 573; LCCL 6275 – Bontveld.
P. reniforme Curt. AMB 333, 443; LCCL 6318, 6644, 7735A – white or pink flowers; on Zuurkop and east of rest camp; fairly common.
Pelargonium sp. LCCL 6646 – yellow and white flowers; near Caesar's Dam.

OXALIDACEAE

Oxalis stellata Eckl. & Zeyh. AMB 346.

Oxalis sp. cf. *smithiana* Eckl. & Zeyh. or cf. *imbricata* Eckl. & Zeyh.

LCCL 7744 – abundant under shrubs near rest camp.

Oxalis sp. cf. *imbricata* Eckl. & Zeyh. PJB 579 – Caesar's Dam area.

ZYGOPHYLLACEAE

Zygophyllum debile Cham. & Schlechtd. AMB 436; LCCL 6330.

Z. gilfillanii N.E. Br. LCCL 6321.

RUTACEAE

Fagara capensis Thunb. BLP 6601 – shrub with bright green leaves; Spekboomveld.

**Agathosma capensis* Duemmer – mixed shrub and grassveld.

Teclea natalensis (Sond.) Engl. BLP 6602 – Spekboomveld.

MELIACEAE

**Ptaeroxylon obliquum* (Thunb.) Radlk. – Spekboomveld.

POLYGALACEAE

Polygala asbestina Burch. LCCL 6627, 7686 – semi-prostrate shrub; light purple flowers; east of rest camp; grazed by wildlife.

**P. microlopha* DC. (= *P. ericaefolia* Harv.) – mixed shrub and grassveld.

EUPHORBIACEAE

Phyllanthus verrucosus Thunb. AMB 432.

Jatropha capensis (L.f.) Sond. AMB 367; LCCL 6329.

Clusia daphnoides Lam. AMB 435.

**Euphorbia burmannii* E. Mey. ex Boiss. – Spekboomveld.

E. caterviflora N.E. Br. PJB 527, LCCL 6634, 7710 – eaten by wildlife to a certain extent; uncommon in Caesar's Dam area, but abundant east of the rest camp.

E. inaequilatera Sond. AMB 323.

E. mauritanica L. LCCL 6345 – suberect shrub c 50 cm tall; yellow flowers; common.

ANACARDIACEAE

**Rhus incisa* L.f. var. *obovata* Schonl. – bush clumps in Bontveld.

R. longispina Eckl. & Zeyh. BLP 6623 – occasional in Spekboomveld.

R. refracta Eckl. & Zeyh. AMB 327.
R. undulata Jacq. var. *undulata* AMB 439.

CELASTRACEAE

- **Maytenus capitata* (E. Mey. ex Sond.) Marais (= *Gymnosporia capitata* Loes.) – Spekboomveld.
**Maytenus heterophylla* (Eckl. & Zeyh.) N. Robson (= *M. cymosa* Exell; = *Gymnosporia buxifolia* Szyszyl.) – bush clumps in Bontveld and in Spekboomveld.
Maytenus cf. *polyacantha* (Sond.) Marais PJB 546 – Bontveld.
Maytenus undata (Thunb.) Blakelock BLP 6634 – Spekboomveld.
**Putterlickia pyracantha* (L.) Szyszyl. – Spekboomveld.
**Pterocelastrus tricuspidatus* (Lam.) Sond. – Brandkloof (Coastal Bush).
Cassine aethiopica Thunb. (= *C. sphaerophylla* Kuntze) PJB 537; BLP 6629 – Spekboomveld.
Cassine tetragona (L.f.) Loes. BLP 6631 – Spekboomveld.

RHAMNACEAE

- **Scutia myrtina* (Burm.f.) Kurz – bush clumps in Bontveld.

VITACEAE

- Rhoicissus digitata* (L.f.) Gilg & Brandt AMB 456; PJB 545 – abundant in Spekboomveld and Bontveld.

TILIACEAE

- **Grewia occidentalis* L. – bush clumps in Bontveld.
G. robusta Burch. PJB 539; LCCL 6658; BLP 6620 – shrub c 150–180 cm tall; purple flowers; Caesar's Dam area and antelope camp.

MALVACEAE

- Abutilon sonneratianum* (Cav.) Sweet AMB 453; PJB 536 – antelope camp and Spekboomveld.
Hibiscus pusillus Thunb. AMB 454.

STERCULIACEAE

- Hermannia althaeoides* Link AMB 325; PJB 534; LCCL 6299 – antelope camp.
H. flammea Jacq. AMB 434; PJB 560; LCCL 6317 – Caesar's Dam area.
H. pulverata Andr. PJB 558 – Caesar's Dam area.

THYMELAEACEAE

- Gnidia meisneriana* Phill. (= *Lasiosiphon meisnerianus* Endl.) PJB 544 – Caesar's Dam area.

Passerina rubra C.H. Wr. PJB 526 – shrub up to 90 cm tall; on Zuurkop; uncommon.

UMBELLIFERAE

Lichtensteinia kolbeana H. Bol. LCCL 7728 - on Zuurkop.

Rhyticarpus sp. LCCL 7725 – on Zuurkop.

Deverra burchellii (DC.) Eckl. & Zeyh. LCCL 6285.

ERICACEAE

Erica caffra L. PJB 566 – on Zuurkop.

E. demissa Klotzsch ex Benth. PJB 552 – on Zuurkop.

PLUMBAGINACEAE

Plumbago auriculata Lam. (= *P. capensis* Thunb.) AMB 359; LCCL 6279 – common in Spekboomveld.

SAPOTACEAE

Sideroxylon inerme L. PJB 531 – common in Bontveld; occasional in Spekboomveld.

EBENACEAE

Euclea undulata Thunb. var. *undulata* BLP 6626 – common in Spekboomveld.

E. schimperi (A. DC.) Dandy BLP 6603 – Spekboomveld; uncommon.

Diospyros dichrophylla (Gand.) De Wint. AMB 433.

D. scabrada (Harv. ex Hiern) De Wint. var. *cordata* (E. Mey. ex A. DC.) De Wint. PJB 538 – Bontveld.

**D. pallens* (Thunb.) F. White (= *Royena pallens* Thunb.) – bush clumps in Bontveld.

OLEACEAE

Jasminum angulare Vahl LCCL 7736; BLP 6633 – white flowers; common on Zuurkop and also in Spekboomveld.

SALVADORACEAE

Azima tetraacantha Lam. BLP 6608 – thorny shrub; common in Spekboomveld.

APOCYNACEAE

**Carissa bispinosa* (L.) Desf. ex Brenan – Spekboomveld.

C. haematocarpa (Eckl.) A. DC. LCCL 6650 – white flower; common and abundant.

Pachypodium succulentum (L.f.) A. DC. LCCL 6622 – c 30 cm tall; pink striped flowers; common and abundant.

ASCLEPIADACEAE

Cynanchum tetrapterum (Turcz.) R.A. Dyer (= *C. sarcostemmatoides* K. Schum.) LCCL 6278 – Spekboomveld,

Sarcostemma viminale (L.) R. Br. AMB 352; LCCL 6232 – common in Spekboomveld.

**Ceropegia carnosia* E. Mey. – Spekboomveld.

**Fockea edulis* (Thunb.) K. Schum. – Spekboomveld.

CONVOLVULACEAE

Ipomoea ficifolia Lindl. AMB 446.

BORAGINACEAE

Ehretia rigida (Thunb.) Druce PJB 568 – Caesar's Dam area and in bush clumps in Bontveld.

VERBENACEAE

Lantana rugosa Thunb. PJB 540 – Caesar's Dam area.

Chascanum dehiscens (L.f.) Moldenke AMB 431; LCCL 6353 semi-prostrate shrublet c 15–20 cm tall; white-purplish flowers; Bontveld.

LABIATAE

Lasiocorys capensis Benth. AMB 326, 343, PJB 548; LCCL 6326 – Bontveld.

Stachys aethiopica L. AMB 363.

SOLANACEAE

Lycium campanulatum E. Mey. LCCL 6612.

Lycium sp. cf. *oxycladum* Miers PJB 554 – Bontveld.

Solanum coccineum Jacq. PJB 535; LCCL 6291.

S. rubetorum Dun. LCCL 6287.

**S. quadrangulare* Thunb. – Spekboomveld.

SCROPHULARIACEAE

Diascia cuneata E. Mey. ex Benth. LCCL 6320.

Nemesia floribunda Lehm. PJB 555; LCCL 6302.

Sutera campanulata (Benth.) Kuntze AMB 354; PJB 556; LCCL 6315.

S. foliolosa (Benth.) Hiern LCCL 6322 – antelope camp.

S. microphylla (L.f.) Hiern AMB 362; PJB 529; LCCL 6297, 7709 – west of the rest camp and in Caesar's Dam area.

S. pinnatifida Kuntze AMB 350.

SELAGINACEAE

Selago decumbens Thunb. PJB 559 – Caesar's Dam area.

Selago sp. LCCL 7737.

Walafrida decipiens Rolfe AMB 441.

W. geniculata Rolfe AMB 344; PJB 578; LCCL 6653 – shrublet c 30 cm tall; light purple flowers; Caesar's Dam area.

W. paniculata Rolfe AMB 430; LCCL 6652 – white flowers; Caesar's Dam area; uncommon.

BIGNONIACEAE

Rhigozum obovatum Burch. LCCL 7684; BLP 6609 – shrub; near rest camp and also in Spekboomveld.

ACANTHACEAE

Barleria obtusa Nees LCCL 6280.

B. pungens L.f. AMB 330.

Blepharis capensis (L.f.) Pers. LCCL 6311.

B. integrifolia (L.f.) E. Mey. ex Schinz LCCL 6657 – prostrate; purple flowers; antelope camp.

Peristrophe cernua Nees LCCL 7754 – purple flowers; abundant.

Hypoestes verticillaris (L.f.) R. Br. LCCL 6292; BLP 6627 – common in Spekboomveld.

Isoglossa ciliata (Nees) Lindau AMB 437.

Justicia capensis Thunb. AMB 442.

J. cuneata Vahl PJB 553.

J. orchioides L.f. AMB 334; LCCL 7704, 7742 – whitish flowers; on Zuurkop and Caesar's Dam area; fairly abundant.

Justicia sp. BLP 6625.

RUBIACEAE

**Anthospermum ciliare* L. – mixed shrub and grassveld.

**Nenax microphylla* (Sond.) Salter – mixed shrub and grassveld.

DIPSACACEAE

Scabiosa columbaria L. LCCL 7733 – blue flowers; on Zuurkop; rare.

CUCURBITACEAE

Kedrostis nana (Lam.) Cogn. var. *schlechteri* (Cogn.) A. Meeuse AMB 427; BLP 6604 – small creeper; Spekboomveld.

CAMPANULACEAE

Lightfootia albens Spreng. ex A. DC. LCCL 7731 – on Zuurkop; abundant.

L. nodosa Buek LCCL 7738 – on Zuurkop; fairly abundant.
Cyphia heterophylla Presl. – Spekboomveld
C. sylvatica Eckl. LCCL 6300.

COMPOSITAE

**Pteronia incana* (Burm.) DC. – Bontveld, northern boundary.
P. paniculata Thunb. AMB 332; LCCL 6617 – locally dominant.
Amellus strigosus (Thunb.) Less. LCCL 6289.
Felicia filifolia (Vent.) Burt Davy (= *Aster filifolius* Vent.) LCCL 6312.
F. muricata (Thunb.) Nees (= *Aster muricatus* Thunb.) PJB 530
– Caesar's Dam area.
Chrysocoma tenuifolia Berg. AMB 351. PJB 541 – Caesar's Dam area.
Helichrysum arenicola M.D. Henderson LCCL 7730 – on Zuurkop; fairly abundant.
H. capillaceum (Thunb.) Less. LCCL 6336.
H. rosum (Berg.) Less. AMB 452; LCCL 7721 – on Zuurkop; abundant.
H. rugulosum Less. LCCL 6305.
Disparago ericoides Gaertn. PJB 575 – on Zuurkop.
Metalasia muricata (L.) Less. PJB 567 – on Zuurkop.
Cotula anthemoides L. LCCL 6316.
C. heterocarpa DC. LCCL 6295.
Pentzia calcarea Kies LCCL 6327.
P. incana (Thunb.) Kuntze AMB 342.
P. globifera (Thunb.) Hutch. LCCL 6309.
**P. globosa* Less. – Karoo-bushveld.
Cineraria geifolia L. PJB 533 – antelope camp.
C. lobata L'Hérit. AMB 349; LCCL 6248, 7729 – on Zuurkop.
Cineraria sp. LCCL 6247.
Senecio angulatus L. LCCL 6337.
S. deltoideus Less. LCCL 6332.
S. graminifolius Jacq. LCCL 7388 – antelope camp.
S. longifolius L. LCCL 6331.
S. pterophorus DC. LCCL 7386, 7734 – annual; yellow flowers; on Zuurkop.
S. radicans (DC.) Sch. Bip. LCCL 6632; BLP 6615 – yellow flowers very common and abundant.
Euryops algoensis DC. AMB 429; LCCL 6324.
E. anthemoides B. Nord. (= *Gamolepis trifurcata* Less.) AMB 341; PJB 522
– Caesar's Dam area.
Othonna carnososa Less. AMB 358; PJB 550; LCCL 6273 – antelope camp.
Osteospermum calendulaceum L.f. LCCL 6272.
O. imbricatum L. AMB 3355; PJB 532; LCCL 7739 – Zuurkop and Caesar's Dam area; fairly abundant.
Ursinia nana DC. LCCL 6304.
Arctotis acaulis L. LCCL 7727 – locally abundant on Zuurkop.
Venidium arctotoides (L.f.) Less. AMB 438; PJB 572 – Bontveld.
Arctotheca calendula (L.) Levyns LCCL 6273, 6314.
Gazania krebsiana Less. subsp. *krebsiana* LCCL 6298.

- Cuspidia cernua* (L.f.) B.L. Burtt subsp. *cernua* PJB 551; LCCL 6290 – Bontveld
Platycarpha glomerata Less. LCCL 7703 – purple flowers; on bank of pond near rest camp; abundant.
Lactuca capensis Thunb. LCCL 7719 – on Zuurkop.

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