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Supplementary Material 1: A checklist of species in the Tankwa Karoo National Park identified during the study. Taxonomic reference: Plants of Southern Africa Checklist (South African National Biodiversity Institute 2016) available at <https://posa.sanbi.org>.

Species	Family	Growth form	Life form
<i>Amellus tridactylus</i> DC.	<i>Asteraceae</i>	Annual herb	Therophyte
<i>Anisodonteia triloba</i> (Thunb.) Bates	<i>Malvaceae</i>	Dwarf non-succulent shrub	Chamaephyte
<i>Asparagus aethiopicus</i> L.	<i>Asparagaceae</i>	Non-succulent shrub	Chamaephyte
<i>Asparagus capensis</i> L.	<i>Asparagaceae</i>	Non-succulent Shrub	Chamaephyte
<i>Asparagus retrofractus</i> L.	<i>Asparagaceae</i>	Non-succulent shrub	Nano-phanerophyte
<i>Asparagus striatus</i> (L.f.) Thunb.	<i>Asparagaceae</i>	Non-succulent shrub	Chamaephyte
<i>Atriplex lindleyi</i> Moq.	<i>Amaranthaceae</i>	Dwarf shrub	Chamaephyte
<i>Augea capensis</i> Thunb.	<i>Zygophyllaceae</i>	Dwarf succulent shrub	Chamaephyte
<i>Berkheya fruticosa</i> (L.) Ehrh.	<i>Asteraceae</i>	Non-succulent shrub	Chamaephyte
<i>Berkheya spinosa</i> (L.f.) Druce.	<i>Asteraceae</i>	Non-succulent shrub	Chamaephyte
<i>Bromus pectinatus</i> Thunb.	<i>Poaceae</i>	Annual grass	Therophyte
<i>Bulbine succulenta</i> Compton	<i>Asphodelaceae</i>	Geophyte	Cryptophyte
<i>Cheiridopsis namaquensis</i> (Sond.) H.E.K.Hartmann	<i>Aizoaceae</i>	Dwarf succulent shrub	Chamaephyte
<i>Chrysocoma ciliata</i> L.	<i>Asteraceae</i>	Dwarf non-succulent shrub	Chamaephyte
<i>Cladoraphis spinosa</i> (L.f.) S.M.Phillips	<i>Poaceae</i>	Perennial grass	Chamaephyte
<i>Codon royerii</i> L.	<i>Boraginaceae</i>	Dwarf non-succulent shrub	Chamaephyte
<i>Colchicum volutare</i> (Burch.) J.C.Manning and Vinn.	<i>Colchicaceae</i>	Geophyte	Cryptophyte
<i>Cotula microglossa</i> (DC.) O.Hoffm. and Kuntze ex Kuntze	<i>Asteraceae</i>	Annual herb	Therophyte
<i>Cotula nudicaulis</i> Thunb.	<i>Asteraceae</i>	Annual herb	Therophyte
<i>Cotyledon orbiculata</i> L.	<i>Crassulaceae</i>	Succulent shrub	Chamaephyte
<i>Crassula muscosa</i> L.	<i>Crassulaceae</i>	Dwarf succulent shrub	Chamaephyte
<i>Dianthus namaensis</i> Schinz	<i>Caryophyllaceae</i>	Perennial herb	Chamaephyte
<i>Dimorpotheca pinnata</i> (Thunb.) Harv.	<i>Asteraceae</i>	Annual herb	Therophyte
<i>Drosanthemum framesii</i> L. Bolus	<i>Aizoaceae</i>	Dwarf succulent shrub	Chamaephyte
<i>Drosanthemum lique</i> (N.E.Br.) Schwantes	<i>Aizoaceae</i>	Dwarf succulent shrub	Chamaephyte
<i>Enneapogon scaber</i> Lehm.	<i>Poaceae</i>	Annual grass	Therophyte

<i>Eriocephalus africanus</i> L.	<i>Asteraceae</i>	Non-succulent shrub	Chamaephyte
<i>Eriocephalus decussatus</i> Burch.	<i>Asteraceae</i>	Non-succulent shrub	Chamaephyte
<i>Eriocephalus microphyllus</i> DC.	<i>Asteraceae</i>	Non-succulent shrub	Chamaephyte
<i>Eriocephalus punctulatus</i> DC.	<i>Asteraceae</i>	Non-succulent shrub	Chamaephyte
<i>Euchlora hirsuta</i> (Thunb.) Druce	<i>Fabaceae</i>	Annual herb	Therophyte
<i>Euphorbia hamata</i> (Haw.) Sweet	<i>Euphorbiaceae</i>	Stem succulent shrub	Chamaephyte
<i>Euphorbia mauritanica</i> L.	<i>Euphorbiaceae</i>	Stem succulent shrub	Chamaephyte
<i>Euphorbia rhombifolia</i> Boiss.	<i>Euphorbiaceae</i>	Stem succulent shrub	Chamaephyte
<i>Euryops annuus</i> Compton	<i>Asteraceae</i>	Annual herb	Therophyte
<i>Euryops lateriflorus</i> (L.f.) DC.	<i>Asteraceae</i>	Non-succulent shrub	Chamaephyte
<i>Euryops</i> sp.	<i>Asteraceae</i>	Non-succulent shrub	Chamaephyte
<i>Felicia hirsuta</i> DC.	<i>Asteraceae</i>	Non-succulent shrub	Chamaephyte
<i>Felicia merxmuelleri</i> Grau	<i>Asteraceae</i>	Annual herb	Therophyte
<i>Fingerhuthia africana</i> Lehm.	<i>Poaceae</i>	Annual herb	Therophyte
<i>Foveolina dichotoma</i> (DC.) Källersjö	<i>Asteraceae</i>	Perennial herb	Therophyte
<i>Galenia africana</i> L.	<i>Aizoaceae</i>	Non-succulent shrub	Chamaephyte
<i>Galenia fruticosa</i> (L.f.) Sond.	<i>Aizoaceae</i>	Dwarf succulent shrub	Chamaephyte
<i>Galenia namaensis</i> Schinz	<i>Aizoaceae</i>	Non-succulent shrub	Chamaephyte
<i>Galenia sarcophylla</i> Fenzl ex. Sond.	<i>Aizoaceae</i>	Dwarf leaf succulent shrub	Chamaephyte
<i>Gazania heterochaeta</i> DC.	<i>Asteraceae</i>	Perennial herb	Chamaephyte
<i>Gazania krebsiana</i> Less.	<i>Asteraceae</i>	Perennial herb	Chamaephyte
<i>Gazania lichtensteinii</i> Less.	<i>Asteraceae</i>	Perennial herb	Chamaephyte
<i>Gorteria alienata</i> (Thunb.) Stangb. And Andersb.	<i>Asteraceae</i>	Non-succulent shrub	Chamaephyte
<i>Hebenstretia glaucescens</i> Schltr.	<i>Scrophulariaceae</i>	Annual herb	Therophyte
<i>Helichrysum hamulosum</i> E.Mey. ex DC.	<i>Asteraceae</i>	Non-succulent shrub	Chamaephyte
<i>Hermannia glabrata</i> L.f.	<i>Malvaceae</i>	Non-succulent shrub	Chamaephyte
<i>Hermannia paucifolia</i> Turcz.	<i>Malvaceae</i>	Dwarf non-succulent shrub	Chamaephyte
<i>Hoodia gordonii</i> (Masson) Sweet ex Decne.	<i>Apocynaceae</i>	Succulent shrub	Chamaephyte
<i>Hordeum murinum</i> L.	<i>Poaceae</i>	Annual grass	Therophyte
<i>Indigofera meyeriana</i> Eckl. and Zeyh.	<i>Fabaceae</i>	Non-succulent shrub	Chamaephyte
<i>Indigofera</i> sp.	<i>Fabaceae</i>	Non-succulent shrub	Chamaephyte
<i>Justicia cuneata</i> Vahl.	<i>Acanthaceae</i>	Non-succulent shrub	Chamaephyte

<i>Lacomucinaea lineata</i> (L.f) Nickrent and M.A. Garcia.	<i>Santalaceae</i>	Non-succulent shrub	Chamaephyte
<i>Lachenalia aurioliae</i> G.D.Duncan	<i>Hyacinthaceae</i>	Geophyte	Cryptophyte
<i>Lampranthus otzenianus</i> (Dinter) Friedrich	<i>Aizoaceae</i>	Succulent shrub	Chamaephyte
<i>Lampranthus uniflorus</i> (L.Bolus) L.Bolus	<i>Aizoaceae</i>	Succulent shrub	Chamaephyte
<i>Lapeirousia plicata</i> (Jacq.) Diels	<i>Iridaceae</i>	Geophyte	Cryptophyte
<i>Leobordea platycarpa</i> (Viv.) B.-E. van Wyk and Boatwr.	<i>Fabaceae</i>	Annual herb	Therophyte
<i>Leysera tenella</i> DC.	<i>Asteraceae</i>	Annual herb	Therophyte
<i>Limeum aethiopicum</i> Burm.f.	<i>Molluginaceae</i>	Dwarf non-succulent shrub	Chamaephyte
<i>Lotononis falcata</i> (E.Mey.) Benth.	<i>Fabaceae</i>	Annual herb	Therophyte
<i>Lotononis leptoloba</i> Bolus	<i>Fabaceae</i>	Dwarf non-succulent shrub	Chamaephyte
<i>Lycium cinereum</i> Thunb.	<i>Solanaceae</i>	Non-succulent shrub	Nano-phanerophyte
<i>Lycium horridum</i> Thunb.	<i>Solanaceae</i>	Non-succulent shrub	Nano-phanerophyte
<i>Lycium</i> sp.	<i>Solanaceae</i>	Non-succulent shrub	Nano-phanerophyte
<i>Malephora crassa</i> (L.Bolus) H.Jacobsen and Schwantes	<i>Aizoaceae</i>	Dwarf succulent shrub	Chamaephyte
<i>Melolobium candicans</i> (E.Mey.) Eckl. and Zeyh.	<i>Fabaceae</i>	Dwarf non-succulent shrub	Chamaephyte
<i>Merxmuellera stricta</i> (Schrad.) Conert	<i>Poaceae</i>	Perennial grass	Chamaephyte
<i>Mesembryanthemum bicornes</i> Sond	<i>Aizoaceae</i>	Dwarf succulent shrub	Chamaephyte
<i>Mesembryanthemum guerichianum</i> Pax	<i>Aizoaceae</i>	Annual succulent herb	Therophyte
<i>Mesembryanthemum junceum</i> Haw.	<i>Aizoaceae</i>	Dwarf succulent shrub	Chamaephyte
<i>Mesembryanthemum nitidum</i> (Haw.)	<i>Aizoaceae</i>	Succulent herb	Therophyte
<i>Mesembryanthemum nodiflorum</i> L.	<i>Aizoaceae</i>	Succulent herb	Therophyte
<i>Mesembryanthemum</i> sp.1	<i>Aizoaceae</i>	Succulent herb	Therophyte
<i>Mesembryanthemum</i> sp.2	<i>Aizoaceae</i>	Succulent herb	Therophyte
<i>Microlooma sagittatum</i> (L.) R.Br.	<i>Apocynaceae</i>	Perennial herb	Chamaephyte
<i>Montinia caryophyllacea</i> Thunb.	<i>Montiniaceae</i>	Non-succulent shrub	Nano-phanerophyte
<i>Moraea ciliata</i> (L.f.) Ker Gawl.	<i>Iridaceae</i>	Geophyte	Cryptophyte
<i>Moraea speciosa</i> (L.Bolus) Goldblatt.	<i>Iridaceae</i>	Geophyte	Cryptophyte
<i>Nenax microphylla</i> (Sond.) T.M.Salter	<i>Rubiaceae</i>	Dwarf non-succulent shrub	Chamaephyte
<i>Oedera genistifolia</i> (L.) Anderb. and K.Bremer	<i>Asteraceae</i>	Non-succulent shrub	Chamaephyte
<i>Oncosiphon grandiflorus</i> (Thunb.) Källersjö	<i>Asteraceae</i>	Annual herb	Therophyte
<i>Oncosiphon suffruticosus</i> (L.) Källersjö	<i>Asteraceae</i>	Annual herb	Therophyte
<i>Ornithogalum multifolium</i> Baker	<i>Hyacinthaceae</i>	Geophyte	Cryptophyte
<i>Osteospermum incanum</i> Burm.f. subsp. <i>incanum</i> .	<i>Asteraceae</i>	Non-succulent shrub	Chamaephyte
<i>Osteospermum leptolobum</i> (Harv.) Norl.	<i>Asteraceae</i>	Non-succulent shrub	Chamaephyte

<i>Osteospermum sinuatum</i> (DC.) Norl.	<i>Asteraceae</i>	Dwarf non-succulent shrub	Chamaephyte
<i>Otholobium candicans</i> (Eckl. and Zeyh.) C.H.Stirt.	<i>Fabaceae</i>	Non-succulent shrub	Chamaephyte
<i>Othonna auriculifolia</i> Licht. ex Less.	<i>Asteraceae</i>	Dwarf succulent herb	Chamaephyte
<i>Oxalis annae</i> F.Bolus	<i>Oxalidaceae</i>	Geophyte	Cryptophyte
<i>Oxalis depressa</i> Eckl. and Zeyh.	<i>Oxalidaceae</i>	Geophyte	Cryptophyte
<i>Oxalis luteola</i> Jacq.	<i>Oxalidaceae</i>	Geophyte	Cryptophyte
<i>Oxalis obtusa</i> Jacq.	<i>Oxalidaceae</i>	Geophyte	Cryptophyte
<i>Oxalis pes-caprae</i> L.	<i>Oxalidaceae</i>	Geophyte	Cryptophyte
<i>Oxalis</i> sp	<i>Oxalidaceae</i>	Geophyte	Cryptophyte
<i>Passerina truncata</i> (Meisn.) Bredenkamp and A.E. van Wyk	<i>Thymelaeaceae</i>	Non-succulent shrub	Chamaephyte
<i>Pelargonium abrotanifolium</i> (L.f.) Jacq.	<i>Geraniaceae</i>	Non-succulent shrub	Chamaephyte
<i>Pelargonium echinatum</i> Curtis	<i>Geraniaceae</i>	Non-succulent shrub	Chamaephyte
<i>Pelargonium magenteum</i> J.J.A.van der Walt	<i>Geraniaceae</i>	Semi-succulent shrub	Chamaephyte
<i>Pentzia incana</i> (Thunb.) Kuntze	<i>Asteraceae</i>	Non-succulent shrub	Chamaephyte
<i>Pentzia lanata</i> Hutch.	<i>Asteraceae</i>	Dwarf succulent shrub	Chamaephyte
<i>Pteronia adenocarpa</i> Harv.	<i>Asteraceae</i>	Dwarf non-succulent shrub	Chamaephyte
<i>Pteronia glabrata</i> L.f.	<i>Asteraceae</i>	Dwarf non-succulent shrub	Chamaephyte
<i>Pteronia glauca</i> Thunb.	<i>Asteraceae</i>	Dwarf non-succulent shrub	Chamaephyte
<i>Pteronia incana</i> (Burm.) DC.	<i>Asteraceae</i>	Dwarf non-succulent shrub	Chamaephyte
<i>Pteronia oblanceolata</i> E. Phillips	<i>Asteraceae</i>	Dwarf non-succulent shrub	Chamaephyte
<i>Pteronia pallens</i> L.f.	<i>Asteraceae</i>	Non-succulent shrub	Chamaephyte
<i>Pteronia scariosa</i> L.f.	<i>Asteraceae</i>	Dwarf non-succulent shrub	Chamaephyte
<i>Pteronia villosa</i> L.f.	<i>Asteraceae</i>	Dwarf non-succulent shrub	Chamaephyte
<i>Romulea</i> sp.	<i>Iridaceae</i>	Geophyte	Cryptophyte
<i>Ropera foetida</i> (Schrader and J.C.Wendl) Beier and Thulin	<i>Zygophyllaceae</i>	Succulent shrub	Chamaephyte
<i>Ropera pygmaea</i> (Eckl. and Zeyh.) Beier and Thulin	<i>Zygophyllaceae</i>	Dwarf succulent shrub	Chamaephyte
<i>Ruschia centrocapsula</i> H.E.K.Hartmann and Stüber	<i>Aizoaceae</i>	Dwarf succulent shrub	Chamaephyte
<i>Ruschia cradockensis</i> (Kuntze) H.E.K.Hartmann and Stüber	<i>Aizoaceae</i>	Dwarf succulent shrub	Chamaephyte
<i>Ruschia divaricata</i> L.Bolus	<i>Aizoaceae</i>	Dwarf succulent shrub	Chamaephyte
<i>Ruschia</i> sp	<i>Aizoaceae</i>	Dwarf succulent shrub	Chamaephyte
<i>Ruschia spinosa</i> (L.) Dehn	<i>Aizoaceae</i>	Dwarf succulent shrub	Chamaephyte

<i>Salsola aphylla</i> L.f.	<i>Amaranthaceae</i>	Non-succulent shrub	Chamaephyte
<i>Salsola tuberculata</i> (Moq.) Fenzl	<i>Amaranthaceae</i>	Non-succulent shrub	Chamaephyte
<i>Searsia undulata</i> (Jacq.) T.S.Yi, A.J.Mill. and J.Wen	<i>Anacardiaceae</i>	Non-succulent shrub	Nano-phanerophyte
<i>Selago albida</i> Choisy	<i>Scrophulariaceae</i>	Non-succulent shrub	Chamaephyte
<i>Senecio repandus</i> Thunb.	<i>Asteraceae</i>	Annual herb	Therophyte
<i>Stachys aurea</i> Benth.	<i>Lamiaceae</i>	Non-succulent shrub	Chamaephyte
<i>Stachys</i> sp.	<i>Lamiaceae</i>	Non-succulent shrub	Chamaephyte
<i>Stipagrostis ciliata</i> (Desf.) De Winter	<i>Poaceae</i>	Perennial grass	Chamaephyte
<i>Stipagrostis obtusa</i> (Delile) Nees	<i>Poaceae</i>	Perennial grass	Chamaephyte
<i>Tetraena chrysopteros</i> (Retief) Beier and Thulin	<i>Zygophyllaceae</i>	Succulent shrub	Chamaephyte
<i>Tetragonia fruticosa</i> L.	<i>Aizoaceae</i>	Dwarf succulent shrub	Chamaephyte
<i>Tetragonia microptera</i> Fenzl	<i>Aizoaceae</i>	Annual herb	Therophyte
<i>Tetragonia sarcophylla</i> Fenzl	<i>Aizoaceae</i>	Perennial herb	Chamaephyte
<i>Tetragonia</i> sp.	<i>Aizoaceae</i>	Perennial herb	Chamaephyte
<i>Tetragonia spicata</i> L.f.	<i>Aizoaceae</i>	Non-succulent shrub	Chamaephyte
<i>Trichodesma africanum</i> (L.) Lehm	<i>Boraginaceae</i>	Annual herb	Therophyte
<i>Tylecodon paniculatus</i> (L.f.) Toelken	<i>Crassulaceae</i>	Succulent shrub	Chamaephyte
<i>Tylecodon reticulatus</i> (L.f.) Toelken	<i>Crassulaceae</i>	Dwarf succulent shrub	Chamaephyte
<i>Tylecodon wallichii</i> (Harv.) Toelken	<i>Crassulaceae</i>	Succulent shrub	Chamaephyte
Unknown geophyte	<i>Iridaceae</i>	Annual herb	Therophyte
Unknown herb	<i>Iridaceae</i>	Geophyte	Cryptophyte
Unknown shrub		Non-succulent shrub	Chamaephyte
Unknown succulent shrub1	<i>Aizoaceae</i>	Succulent shrub	Chamaephyte
Unknown succulent shrub2		Succulent shrub	Chamaephyte
<i>Ursinia nana</i> DC.	<i>Asteraceae</i>	Annual herb	Therophyte
<i>Ursinia pilifera</i> (P.J.Bergius) Poir	<i>Asteraceae</i>	Dwarf non-succulent shrub	Chamaephyte