

APPENDIX A: Annotations of landscape metrics equations

Table A.1: Notations used in the landscape metrics Equations 1-6 (Chapter 4) (McGarigal and Marks, 1995).

Term	Definition
Subscript	
i	1, ... , m or m' patch types (classes)
j	j 1, ... , n patches
Symbol	
A	Total landscape area (m ²)
a _{ij}	Area (m ²) of patch ij
E	Total length (m) of edge in landscape; the user may specify whether entire landscape boundary and background edge segments are to be included.
N	Total number of patches in the landscape, excluding any background patches

Supplementary references

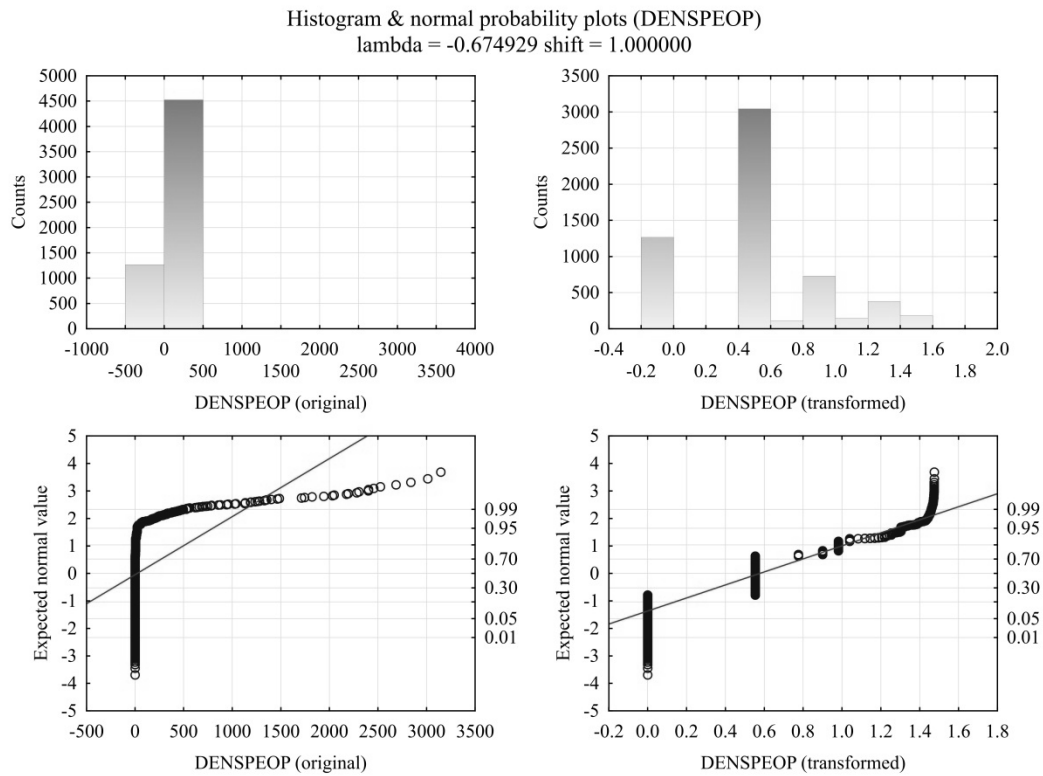
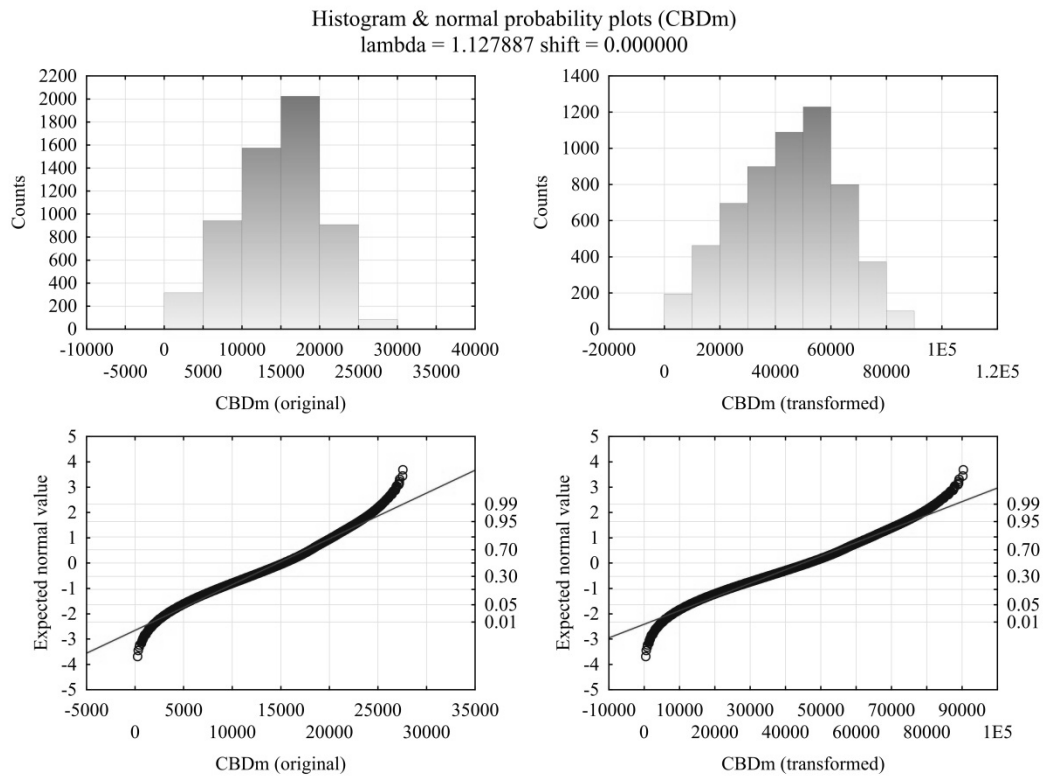
McGarigal, K. & Marks, B. J. 1995. FRAGSTATS: spatial pattern analysis program for quantifying landscape structure. Gen. Tech. Rep. PNW-GTR-351. OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.

APPENDIX B: Box-Cox transformations (normality)

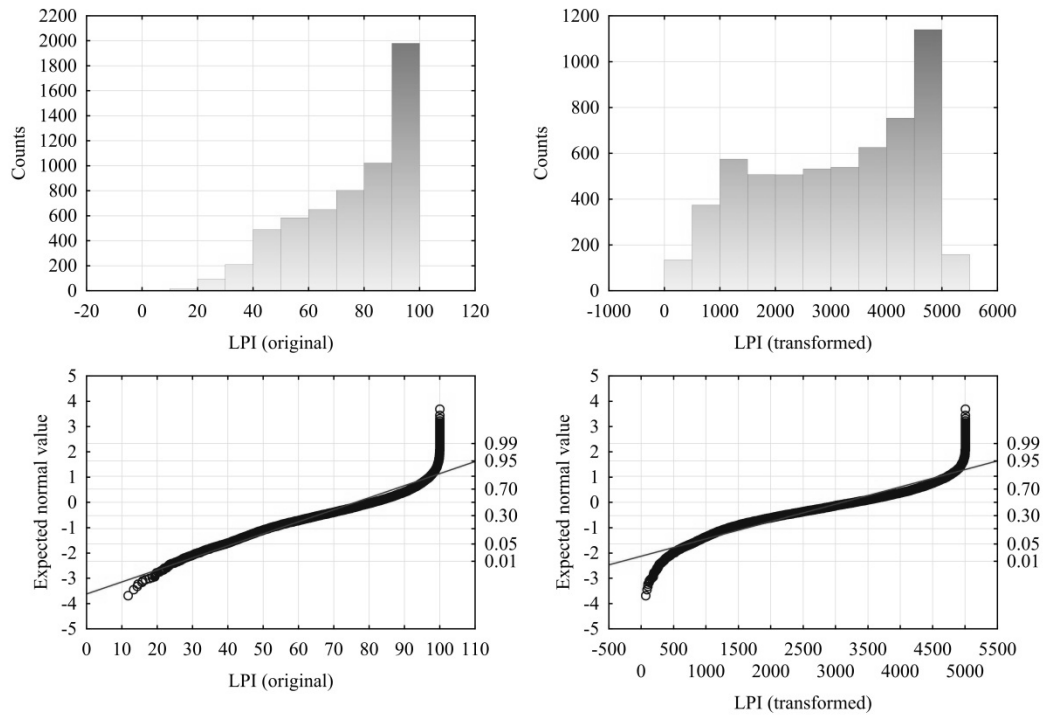
Table B.1: The Box-Cox transformations with the individual formulas for each urbanisation measure to achieve maximized normality of their value distributions. Standard deviation, lower confidence limit, upper confidence limit, for the individual measures as computed for the transformations are also listed.

	Lambda	Shift	Mean	Standard deviation	Lower Confidence Limit	Upper Confidence Limit	Formula for Box-Cox transformation
LPI	2.000247	0.000000	3098.27	1409.65	1.902751	2.098978	$((v1^{(2.000247)}-1)/(2.000247))$
CBDm	1.127887	0.000000	44842.77	18470.18	1.075577	1.180863	$((v4^{(1.127887)}-1)/(1.127887))$
RNDm	0.016984	1.000000	3.55	3.34	0.004371	0.029567	$((v7+(1.000000))^{(0.016984)}-1)/(0.016984)$
PGRALC	0.800734	1.000000	30.86	16.67	0.771221	0.830649	$((v8+(1.000000))^{(0.800734)}-1)/(0.800734)$
DENSPEOP	-0.674668	1.000000	0.58	0.39	-0.699236	-0.650477	$((v9+(1.000000))^{(-0.674668)}-1)/(-0.674668)$
PURBLC	-0.564682	1.000000	0.61	0.52	-0.594595	-0.535128	$((v10+(1.000000))^{(-0.564682)}-1)/(-0.564682)$
PD	0.335978	0.000000	20.83	7.58	0.314641	0.357471	$((v11^{(0.335978)}-1)/(0.335978))$
ED	0.516022	1.000000	25.12	11.48	0.493839	0.538489	$((v12+(1.000000))^{(0.516022)}-1)/(0.516022)$

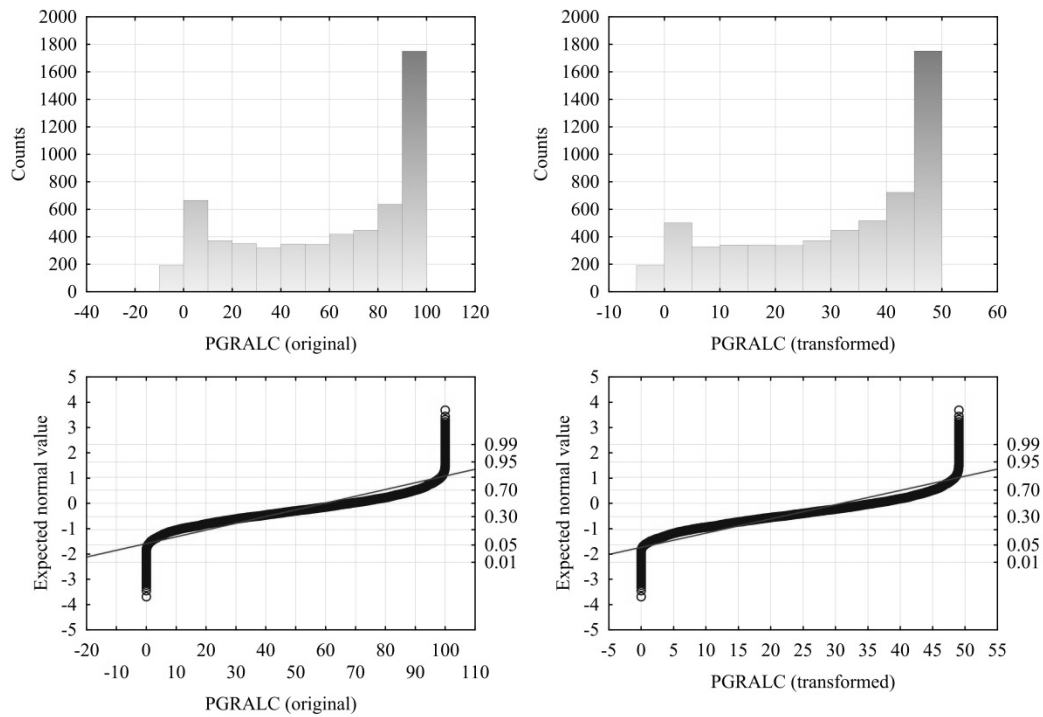
The following graphs represent the “before” (original) and “after” (Box-Cox transformed) normal distribution plots for the eight urbanisation measures used in this study (see Chapter 4).



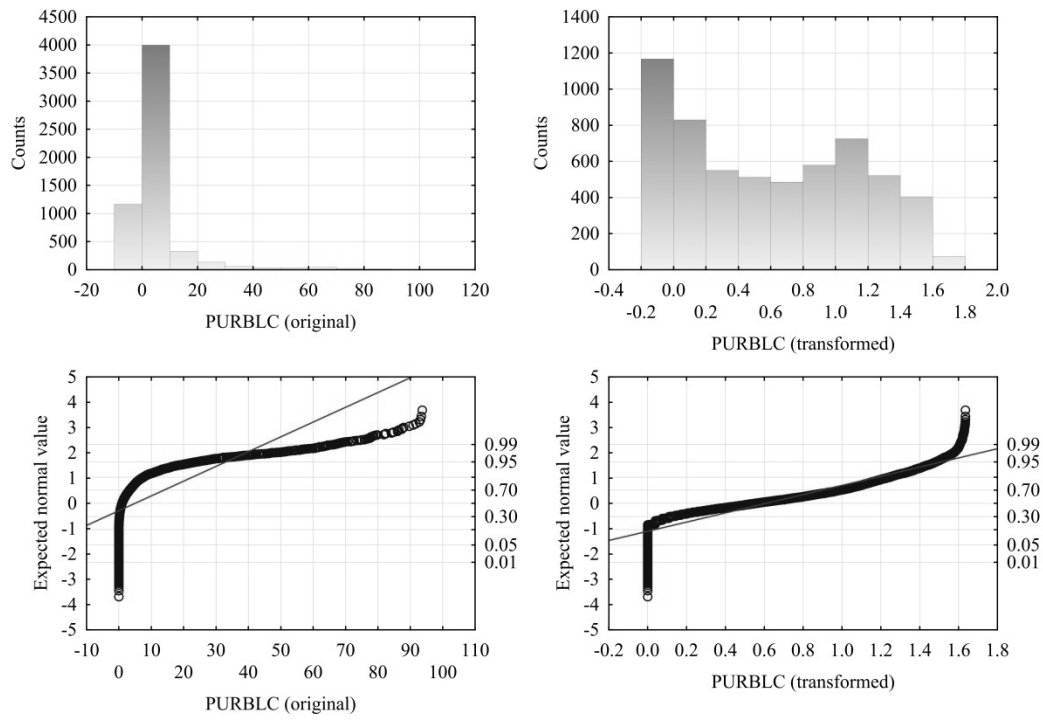
Histogram & normal probability plots (LPI)
 $\lambda = 2.000247$ shift = 0.000000



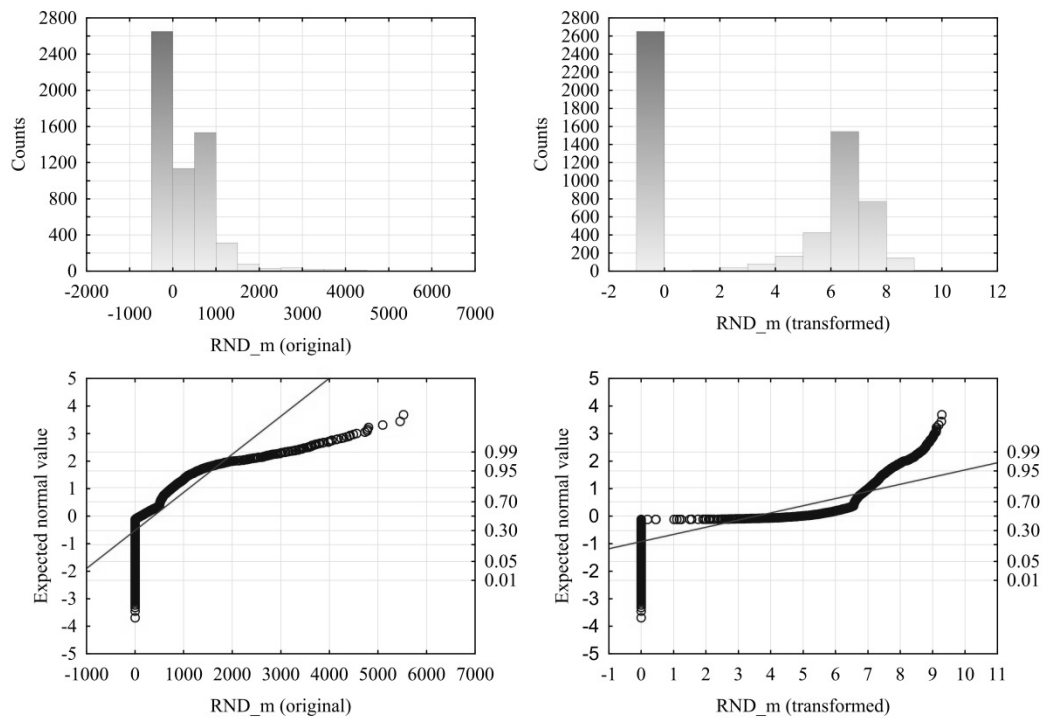
Histogram & normal probability plots (PGRALC)
 $\lambda = 0.800734$ shift = 1.000000



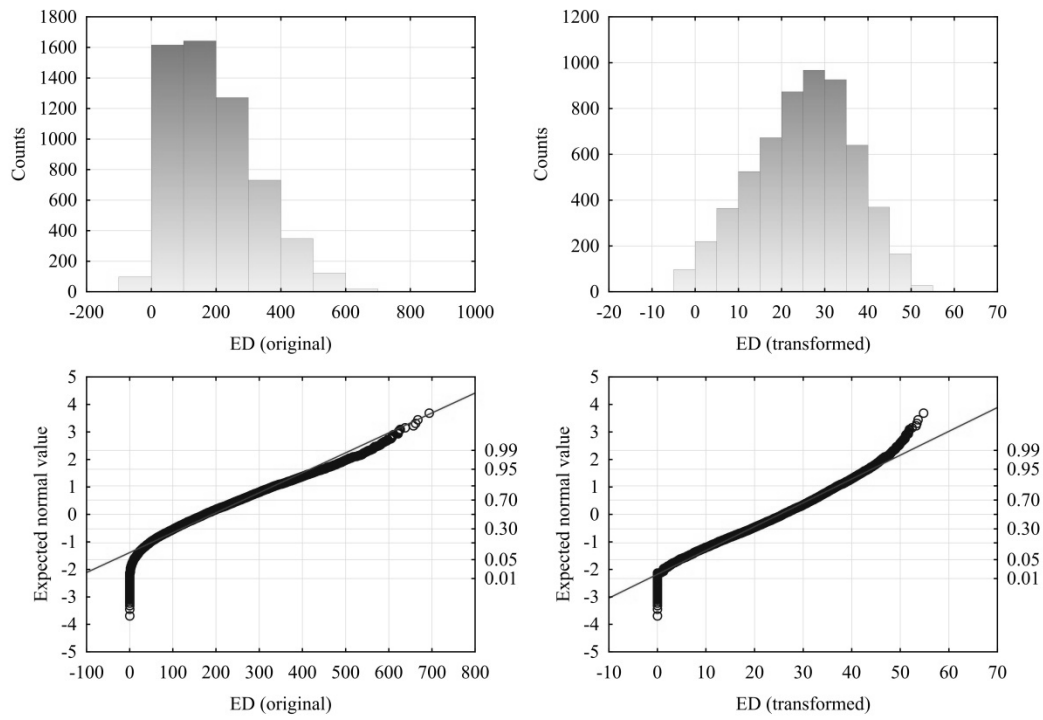
Histogram & normal probability plots (PURBLC)
 $\lambda = -0.564682$ shift = 1.000000



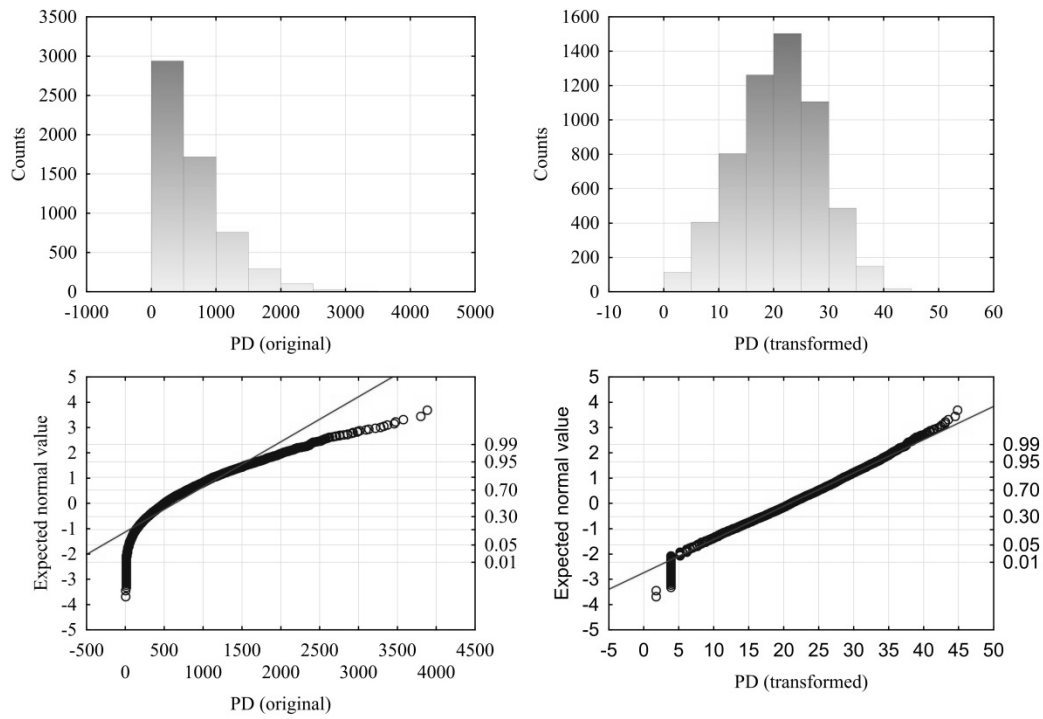
Histogram & normal probability plots (RND_m)
 $\lambda = 0.016984$ shift = 1.000000



Histogram & normal probability plots (ED)
 $\lambda = 0.516022$ shift = 1.000000



Histogram & normal probability plots (PD)
 $\lambda = 0.335978$ shift = 0.000000



APPENDIX C: Landscape metrics correlation matrix

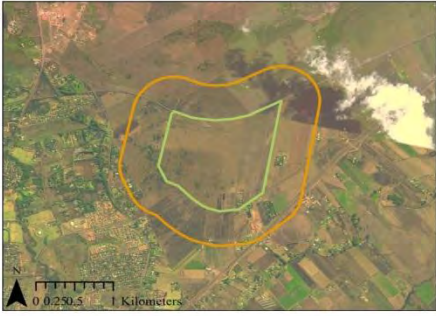
Table C.1: Correlation matrix for the eight landscape metrics calculated for the 500m² grid cells within the study area. Significant correlations (at $p < 0.05$) are indicated in bold red text.

	LPI	CBDm	RNDm	PGRALC	DENSPEOP	PURBLC	PD	ED
LPI	1.000000	0.077194	-0.293021	0.215762	-0.087257	-0.317418	-0.600687	-0.776974
CBDm	0.077194	1.000000	-0.348469	0.242749	-0.225765	-0.369109	-0.122238	-0.113863
RNDm	-0.293021	-0.348469	1.000000	-0.238725	0.595133	0.673710	0.503593	0.440374
PGRALC	0.215762	0.242749	-0.238725	1.000000	-0.182564	-0.318281	-0.065043	-0.052872
DENSPEOP	-0.087257	-0.225765	0.595133	-0.182564	1.000000	0.565313	0.246366	0.190203
PURBLC	-0.317418	-0.369109	0.673710	-0.318281	0.565313	1.000000	0.504091	0.465052
PD	-0.600687	-0.122238	0.503593	-0.065043	0.246366	0.504091	1.000000	0.876371
ED	-0.776974	-0.113863	0.440374	-0.052872	0.190203	0.465052	0.876371	1.000000

APPENDIX D: SPOT satellite– and in-field images of the 30 selected grassland fragments

The images below represent SPOT 5 satellite images indicating maps of patch- and 500m matrix area boundaries, as well as in-field photographs of the rural/peri-urban and urban grassland fragments. The fragment and buffers sizes (ha) and specific urbanisation measure values are also provided. The selected grassland fragments are arranged in the direction of increasing percentage impervious surfaces (%IS).

21			Fragment size (ha) 11.54 Buffer size (ha) 160.14 PURBLC (%IS) 0.61 ED 64.75 PGRALC 25.02 DENSPEOP 5	Rural/peri-urban ↓
30			Fragment size (ha) 38.69 Buffer size (ha) 251.52 PURBLC (%IS) 0.93 ED 86.43 PGRALC 44.27 DENSPEOP 8	
28			Fragment size (ha) 19.85 Buffer size (ha) 209.45 PURBLC (%IS) 1.59 ED 130.17 PGRALC 23.63 DENSPEOP 7	
27			Fragment size (ha) 10.77 Buffer size (ha) 154.82 PURBLC (%IS) 2.29 ED 96.06 PGRALC 28.21 DENSPEOP 6	
23			Fragment size (ha) 116.3 Buffer size (ha) 325.13 PURBLC (%IS) 2.81 ED 92.14 PGRALC 50.08 DENSPEOP 27	

26			Fragment size (ha) 172.83 Buffer size (ha) 344.47 PURBLC (%IS) 3.33 ED 99.49 PGRALC 23.43 DENSPEOP 12
25			Fragment size (ha) 179.41 Buffer size (ha) 356.3 PURBLC (%IS) 5.46 ED 137.71 PGRALC 49.32 DENSPEOP 12
29			Fragment size (ha) 169.26 Buffer size (ha) 346.09 PURBLC (%IS) 5.98 ED 139.12 PGRALC 42.78 DENSPEOP 168
22			Fragment size (ha) 9.49 Buffer size (ha) 179.49 PURBLC (%IS) 6.33 ED 178.64 PGRALC 40.95 DENSPEOP 8
4			Fragment size (ha) 26.17 Buffer size (ha) 194.49 PURBLC (%IS) 8.78 ED 254.89 PGRALC 58.18 DENSPEOP 348

24			Fragment size (ha) 3.76 Buffer size (ha) 123.54 PURBLC (%IS) 9.80 ED 274.68 PGRALC 56.29 DENSPEOP 4
1			Fragment size (ha) 5.52 Buffer size (ha) 130.47 PURBLC (%IS) 17.23 ED 434.97 PGRALC 26.8 DENSPEOP 350
20			Fragment size (ha) 2.99 Buffer size (ha) 115.55 PURBLC (%IS) 27.79 ED 452.78 PGRALC 19.81 DENSPEOP 269
7			Fragment size (ha) 2.36 Buffer size (ha) 124.92 PURBLC (%IS) 30.64 ED 412.32 PGRALC 2.19 DENSPEOP 1270
19			Fragment size (ha) 0.59 Buffer size (ha) 96.64 PURBLC (%IS) 34.28 ED 377.48 PGRALC 2.17 DENSPEOP 651

Urban
↓

16			Fragment size (ha) 3.42 Buffer size (ha) 116.5 PURBLC (%IS) 36.27 ED 499.63 PGRALC 8.43 DENSPEOP 271
13			Fragment size (ha) 0.82 Buffer size (ha) 115.06 PURBLC (%IS) 38.01 ED 469.65 PGRALC 7.74 DENSPEOP 928
9			Fragment size (ha) 7.27 Buffer size (ha) 140.89 PURBLC (%IS) 38.33 ED 423.59 PGRALC 2.63 DENSPEOP 1661
5			Fragment size (ha) 4.43 Buffer size (ha) 135.46 PURBLC (%IS) 41.64 ED 394.35 PGRALC 12.17 DENSPEOP 1035
8			Fragment size (ha) 3.03 Buffer size (ha) 145.75 PURBLC (%IS) 41.69 ED 422.24 PGRALC 2.26 DENSPEOP 1930



Fragment size (ha)	18.13
Buffer size (ha)	165.24
PURBLC (%IS)	44.43
ED	386.14
PGRALC	6.15
DENSPEOP	1656



Fragment size (ha)	2.29
Buffer size (ha)	114.49
PURBLC (%IS)	44.57
ED	440.01
PGRALC	7.14
DENSPEOP	1487



Fragment size (ha)	1.63
Buffer size (ha)	113.7
PURBLC (%IS)	44.87
ED	424.15
PGRALC	1.49
DENSPEOP	1352



Fragment size (ha)	6.26
Buffer size (ha)	152.51
PURBLC (%IS)	44.89
ED	419.87
PGRALC	1.93
DENSPEOP	2122



Fragment size (ha)	2.13
Buffer size (ha)	116.09
PURBLC (%IS)	46.67
ED	457.41
PGRALC	18.77
DENSPEOP	775

17			Fragment size (ha) 1.03 Buffer size (ha) 101.63 PURBLC (%IS) 52.03 ED 512.2 PGRALC 10.6 DENSPEOP 836
15			Fragment size (ha) 1.74 Buffer size (ha) 108.46 PURBLC (%IS) 61.7 ED 496.71 PGRALC 2.08 DENSPEOP 1173
14			Fragment size (ha) 0.74 Buffer size (ha) 96.85 PURBLC (%IS) 64.18 ED 505.93 PGRALC 2.34 DENSPEOP 1223
18			Fragment size (ha) 0.65 Buffer size (ha) 97.07 PURBLC (%IS) 64.18 ED 475.58 PGRALC 1.96 DENSPEOP 1075
2			Fragment size (ha) 3.84 Buffer size (ha) 117.73 PURBLC (%IS) 66.19 ED 523.8 PGRALC 0.53 DENSPEOP 2020

APPENDIX E: Annotations of plant functional diversity indices equations

Table E. 1: Notations used in the species diversity indices Equations (Chapter 5) (Begon *et al.*, 2006).

Term	Definition
Symbol	
H	Shannon's diversity index
S	Total number of species in the community
W _i	Proportion contribution (individuals) of the <i>i</i> th species to the total sample
E	Pielou's evenness index

Table E. 2: Notations used in the species functional diversity indices Equations (Chapter 5) (Pla *et al.*, 2012; Villéger *et al.*, 2008).

Term	Definition
Symbol	
EW _b	Weighted evenness
d _{ij}	Euclidean distance between species <i>i</i> and <i>j</i>
dG _i	Euclidean distance of species <i>i</i> from the gravity centre
Δd	Abundance weighted deviances
w _i	Abundance of species <i>i</i>
z _i	Distance of species <i>i</i> to the weighted centroid

Supplementary references

- Begon, M., Townsend, C.R. & Harper, J.L. 2006. Ecology: from individuals to ecosystems. 4th ed. Blackwell Publishing.
- Pla, L., Casanoves, F. & Di Rienzo, J.A. 2012. Quantifying functional biodiversity. Springer.
- Villéger, S., Mason, N. & Mouillot, D. 2008. New multidimensional functional diversity indices for a multifaceted framework in functional ecology. *Ecology*, 89(8):2290-2301.

APPENDIX F: Plant species list and plant functional traits

Table F.1: List of the plant species (names follow Germishuizen *et al.* (2006)) recorded during this study and their functional traits (after Cornelissen *et al.* (2003) and Aronson *et al.* (2007)).

Species name	Status	Growth form	Life form	Life span	Clonality	Spinescence	Leaf periodicity	Dispersal	Pollination
<i>Acacia calfira</i>	Native	Shrub	Phanerophyte	Perennial	Non-clonal	Spines	Deciduous	Unassisted-internal animal	Biotic
<i>Acacia erioloba</i>	Native	Shrub	Phanerophyte	Perennial	Non-clonal	Spines	Deciduous	Unassisted-internal animal	Biotic
<i>Acacia karroo</i>	Native	Shrub	Phanerophyte	Perennial	Non-clonal	Spines	Deciduous	Unassisted-internal animal	Biotic
<i>Acacia hebeclada</i>	Native	Shrub	Phanerophyte	Perennial	Non-clonal	Spines	Deciduous	Unassisted-internal animal	Biotic
<i>Acadlypha angustata</i>	Native	Forb	Hemicryptophytes	Perennial	Clonal below ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Aerva leucura</i>	Native	Forb	Chamaephytes	Perennial	Non-clonal	No spines	Semi-evergreen	Unassisted dispersal	Biotic
<i>Afrosciadium magalismontanum</i>	Native	Forb (herb)	Hemicryptophytes	Perennial	Non-clonal	No spines	Evergreen	Wind dispersal	Abiotic
<i>Albica serosa</i>	Native	Forb	Geophyte	Perennial	Clonal below ground	No spines	Deciduous	Unassisted-internal animal	Biotic
<i>Albica sp.</i>	Native	Forb	Geophyte	Perennial	Clonal below ground	No spines	Deciduous	Unassisted-internal animal	Biotic
<i>Alectra sessiliflora</i> var. <i>sessiliflora</i>	Native	Forb	Chamaephytes	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Aloe gracilicaulis</i>	Native	Succulent	Hemicryptophytes	Perennial	Non-clonal	Spines	Evergreen	Wind dispersal	Biotic
<i>Alternanthera pungens</i>	Exotic	Forb	Hemicryptophytes	Perennial	Clonal above ground	No spines	Semi-evergreen	External animal	Biotic
<i>Anacanthus hybridus</i>	Exotic	Forb	Hemicryptophytes	Perennial	Non-clonal	No spines	Deciduous	Internal animal transport	Biotic
<i>Anacanthus thunbergii</i>	Native	Forb	Therophyte	Annual	Non-clonal	No spines	Deciduous	Internal animal transport	Biotic
<i>Anni majus</i> var. <i>glaucofolium</i>	Exotic	Forb	Therophyte	Annual	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Andropogon chinensis</i>	Native	Graminoid	Hemicryptophytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Abiotic
<i>Anthospermum rigidum</i>	Native	Forb	Hemicryptophytes	Perennial	Non-clonal	No spines	Semi-evergreen	Unassisted dispersal	Biotic
<i>Anizoma angustifolia</i>	Native	Vine (Climber)	Hemicryptophytes	Perennial	Non-clonal	Spines	Evergreen	Unassisted dispersal	Biotic
<i>Aporosium procumbens</i>	Native	Forb	Chamaephytes	Perennial	Non-clonal	No spines	Evergreen	Unassisted dispersal	Biotic
<i>Araujia sericea</i>	Exotic	Vine (Climber)	Chamaephytes	Perennial	Non-clonal	No spines	Evergreen	Wind dispersal	Biotic
<i>Argemone ochroleuca</i> subsp. <i>ochroleuca</i>	Exotic	Forb	Therophyte	Annual	Non-clonal	Spines	Deciduous	Wind dispersal	Biotic
<i>Aristida adscensionis</i>	Native	Graminoid	Therophyte	Annual	Non-clonal	No spines	Deciduous	External animal	Abiotic
<i>Aristida bipartita</i>	Native	Graminoid	Therophyte	Annual	Non-clonal	No spines	Deciduous	External animal	Abiotic
<i>Aristida canescens</i>	Native	Graminoid	Hemicryptophytes	Perennial	Non-clonal	No spines	Deciduous	External animal	Abiotic
<i>Aristida congesta</i> subsp. <i>barbicollis</i>	Native	Graminoid	Hemicryptophytes	Perennial	Non-clonal	No spines	Deciduous	External animal	Abiotic
<i>Aristida congesta</i> subsp. <i>congesta</i>	Native	Graminoid	Therophyte	Annual	Non-clonal	No spines	Deciduous	External animal	Abiotic
<i>Aristida stipitata</i>	Native	Graminoid	Hemicryptophytes	Perennial	Non-clonal	No spines	Deciduous	External animal	Abiotic
<i>Asclepias eminens</i>	Native	Forb	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	External animal	Abiotic
<i>Asclepias meliodora</i>	Native	Forb	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Asclepias stellifera</i>	Native	Forb	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Asparagus loricatus</i>	Native	Shrub	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Asparagus setaceus</i>	Native	Shrub	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Asparagus suaveolens</i>	Native	Shrub	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Internal animal transport	Biotic
<i>Atriplex semibaccata</i>	Exotic	Forb	Therophyte	Annual	Non-clonal	No spines	Evergreen	Internal animal transport	Biotic
<i>Barleria macrostegia</i>	Native	Forb	Chamaephytes	Perennial	Non-clonal	Spines	Evergreen	Internal animal transport	Biotic
<i>Berkheya carlinopsis</i> subsp. <i>magalismontana</i>	Native	Forb	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	External animal transport	Biotic
<i>Berkheya onopordifolia</i> var. <i>onopordifolia</i>	Native	Forb	Chamaephytes	Perennial	Non-clonal	Spines	Evergreen	Unassisted dispersal	Biotic
<i>Berkheya radula</i>	Native	Forb	Hemicryptophytes	Perennial	Non-clonal	Spines	Evergreen	Wind dispersal	Biotic
<i>Bidens bipinnata</i>	Exotic	Forb	Therophyte	Annual	Non-clonal	No spines	Deciduous	External animal	Biotic
<i>Bidens pilosa</i>	Exotic	Forb	Therophyte	Annual	Non-clonal	No spines	Deciduous	External animal	Biotic
<i>Blepharis integrifolia</i>	Native	Forb	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	External animal	Biotic
<i>Boophone disticha</i>	Native	Forb	Geophyte	Perennial	Clonal below ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Brachiaria eruciformes</i>	Native	Graminoid	Therophyte	Annual	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Brachiaria serrata</i>	Native	Graminoid	Hemicryptophyte	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Abiotic

Table F.1 continue

Species name	Status	Growth form	Life form	Life span	Clonality	Spinescence	Leaf periodicity	Dispersal	Pollination
<i>Bromus catharticus</i>	Exotic	Graminoid	Therophyte	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Abiotic
<i>Bulbine capitata</i>	Native	Forb	Geophyte	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Biotic
<i>Bulbine narissifolia</i>	Native	Forb	Geophyte	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Biotic
<i>Bulbosylis burchellii</i>	Native	Graminoid	Hemipterophyte	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Abiotic
<i>Celtis africana</i>	Native	Tree	Phanerophyte	Perennial	Non-clonal	No spines	Deciduous	Internal animal transport	Biotic
<i>Celtis australis</i>	Exotic	Tree	Phanerophyte	Perennial	Non-clonal	No spines	Deciduous	Internal animal transport	Biotic
<i>Cestrum laevigatum</i>	Exotic	Shrub	Phanerophyte	Perennial	Non-clonal	No spines	Evergreen	Unassisted dispersal	Biotic
<i>Chaetacanthus costatus</i>	Native	Forb	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Chamaecrista biennis</i>	Native	Forb	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Chamaecrista mimosoides</i>	Native	Forb	Chamaephytes	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Chascanum hederaceum</i>	Native	Forb	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Chenopodium album</i>	Exotic	Forb	Therophyte	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Chenopodium carinatum</i>	Exotic	Forb	Therophyte	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Chenopodium mucronatum</i>	Exotic	Forb	Therophyte	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Chloris pycnantha</i>	Native	Graminoid	Therophyte	Annual	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Chloris virgata</i>	Native	Graminoid	Therophyte	Annual	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Chlorophytum cooperi</i>	Native	Forb	Geophyte	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Biotic
<i>Chlorophytum transvaalense</i>	Native	Forb	Geophyte	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Biotic
<i>Cichorium intybus</i>	Exotic	Forb	Chamaephytes	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Biotic
<i>Ciclospermum leptophyllum</i>	Exotic	Forb	Therophyte	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Cirsium vulgare</i>	Exotic	Forb	Chamaephytes	Annual	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Clematis brachiata</i>	Native	Vine	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Combretum erythrophyllum</i>	Native	Tree	Phanerophyte	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Commelina africana</i>	Native	Forb	Hemipterophyte	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Commelina benghalensis</i>	Exotic	Forb	Therophyte	Annual	Clonal above ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Commicarpus pentandrus</i>	Native	Forb	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Convolvulus sagittatus</i>	Native	Vine	Hemipterophyte	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Conyza bonariensis</i>	Exotic	Forb	Therophyte	Annual	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Conyza podoccephala</i>	Native	Forb	Hemipterophyte	Perennial	Clonal above ground	No spines	Evergreen	Wind dispersal	Biotic
<i>Corechoris asplenifolius</i>	Native	Forb	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Cosmos bipinnatus</i>	Exotic	Forb	Chamaephytes	Annual	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Cotula microglossa</i>	Exotic	Forb	Therophyte	Perennial	Non-clonal	No spines	Deciduous	External animal	Biotic
<i>Crabbea acutis</i>	Native	Forb	Hemipterophyte	Perennial	Non-clonal	No spines	Deciduous	External animal	Biotic
<i>Crabbea angustifolia</i>	Native	Forb	Hemipterophyte	Perennial	Clonal below ground	No spines	Evergreen	Unassisted dispersal	Biotic
<i>Crinum bubispermum</i>	Native	Forb	Geophytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Crotalaria lotoides</i>	Native	Forb	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Crotalaria sphaerocarpa</i>	Native	Forb (herb)	Therophyte	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Cucumis zeyheri</i>	Native	Forb	Chamaephytes	Perennial	Clonal below ground	No spines	Evergreen	Internal animal transport	Biotic
<i>Cuscuta campestris</i>	Exotic	Parasite	Therophyte	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Cyanotis speciosa</i>	Native	Succulents	Chamaephytes	Perennial	Clonal below ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Cymbopogon cassinus</i>	Native	Graminoid	Hemipterophyte	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Cymbopogon nardus</i>	Native	Graminoid	Hemipterophyte	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Cymbopogon pospischilii</i>	Native	Graminoid	Hemipterophyte	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Cynodon dactylon</i>	Native	Graminoid	Hemipterophyte	Perennial	Clonal above and below	No spines	Deciduous	Wind dispersal	Abiotic

Table F.1 continue

Species name	Status	Growth form	Life form	Life span	Clonality	Spinescence	Leaf periodicity	Dispersal	Pollination
<i>Cynodon hirsutus</i>	Native	Graminoid	Hemeryptophyte	Perennial	Clonal above ground	No spines	Deciduous	Wind dispersal	Abiotic
<i>Cynoglossum hispidum</i>	Native	Forb (herb)	Hemeryptophyte	Perennial	Clonal below ground	No spines	Evergreen	External animal transport	Biotic
<i>Cyperus bellus</i>	Native	Graminoid	Hemeryptophyte	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Abiotic
<i>Cyperus denudatus</i>	Native	Graminoid	Geophyte	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Abiotic
<i>Cyperus denaltinus</i>	Native	Graminoid	Geophytes	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Abiotic
<i>Cyperus obtusiflorus</i> var <i>obtusiflorus</i>	Native	Graminoid	Geophytes	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Abiotic
<i>Cyperus rupestris</i>	Native	Graminoid	Geophytes	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Abiotic
<i>Cyperus</i> sp.	Native	Graminoid	Geophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Delosperma herbatum</i>	Native	Succulents	Chamaephytes	Perennial	Non-clonal	No spines	Evergreen	Unassisted dispersal	Biotic
<i>Deverra burchellii</i>	Native	Forb (herb)	Chamaephytes	Perennial	Clonal below ground	No spines	Evergreen	Wind dispersal	Biotic
<i>Dianthus moensis</i>	Native	Forb (herb)	Chamaephytes	Perennial	Clonal below ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Diceranthera eriocarpum</i>	Native	Forb (herb)	Therophyte	Annual	Non-clonal	No spines	Deciduous	External animal transport	Biotic
<i>Dichondra micrantha</i>	Exotic	Forb (herb)	Hemeryptophyte	Perennial	Clonal above ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Dicoma anomala</i>	Native	Forb (herb)	Chamaephytes	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Biotic
<i>Dicona macrocephala</i>	Native	Forb (herb)	Chamaephytes	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Biotic
<i>Digitaria argyrograpta</i>	Native	Graminoid	Hemeryptophyte	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Abiotic
<i>Digitaria eriantha</i>	Native	Graminoid	Hemeryptophyte	Perennial	Clonal above ground	No spines	Deciduous	Wind dispersal	Abiotic
<i>Digitaria monodactyla</i>	Native	Graminoid	Hemeryptophyte	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Digitaria sanguinalis</i>	Exotic	Graminoid	Therophyte	Annual	Clonal above ground	No spines	Deciduous	Wind dispersal	Abiotic
<i>Diheteropogon amplexans</i>	Native	Graminoid	Hemeryptophyte	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Diospyros bictoides</i>	Native	Shrub	Phanerophyte	Perennial	Non-clonal	No spines	Deciduous	Internal animal transport	Biotic
<i>Dipcad viride</i>	Native	Forb (herb)	Geophytes	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Biotic
<i>Elhertia rigida</i>	Native	Shrub	Phanerophyte	Perennial	Non-clonal	No spines	Deciduous	Internal animal transport	Biotic
<i>Elephantorrhiza elephantina</i>	Native	Shrub	Chamaephytes	Perennial	Clonal below ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Elionurus muticus</i>	Native	Graminoid	Hemeryptophyte	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Eragrostis biflora</i>	Native	Graminoid	Therophyte	Annual	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Eragrostis chloromelas</i>	Native	Graminoid	Hemeryptophyte	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Eragrostis curvula</i>	Native	Graminoid	Hemeryptophyte	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Eragrostis gammiflua</i>	Native	Graminoid	Hemeryptophyte	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Eragrostis micrantha</i>	Native	Graminoid	Hemeryptophyte	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Eragrostis nindensis</i>	Native	Graminoid	Hemeryptophyte	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Eragrostis obusa</i>	Native	Graminoid	Hemeryptophyte	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Eragrostis patenipilosa</i>	Native	Graminoid	Hemeryptophyte	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Eragrostis plana</i>	Native	Graminoid	Hemeryptophyte	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Eragrostis racemosa</i>	Native	Graminoid	Hemeryptophyte	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Eragrostis rigidior</i>	Native	Graminoid	Hemeryptophyte	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Eragrostis superba</i>	Native	Graminoid	Hemeryptophyte	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Eragrostis trichophora</i>	Native	Graminoid	Hemeryptophyte	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Eriosema salignum</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Erioseperum cooperi</i> var. <i>cooperi</i>	Native	Forb (herb)	Geophytes	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Biotic
<i>Erucastrum austroafricanum</i>	Native	Forb (herb)	Therophyte	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Erythrina zeyheri</i>	Native	Shrub	Phanerophytes	Perennial	Clonal below ground	Spines	Deciduous	Internal animal transport	Biotic
<i>Eucalyptus camaldulensis</i>	Exotic	Tree	Phanerophytes	Perennial	Non-clonal	No spines	Evergreen	Unassisted dispersal	Biotic
<i>Eucalyptus sideroxylon</i>	Exotic	Tree	Phanerophytes	Perennial	Non-clonal	No spines	Evergreen	Unassisted dispersal	Biotic

Table F.1 continue

Species name	Status	Growth form	Life form	Life span	Clonality	Spinescence	Leaf periodicity	Dispersal	Pollination
<i>Euphorbia heterophylla</i>	Exotic	Forb (herb)	Therophyte	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Euphorbia hirta</i>	Exotic	Forb (herb)	Therophyte	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Euphorbia inaequalitera</i>	Native	Forb (herb)	Therophyte	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Eustachys paspaloides</i>	Native	Graminoid	Hemeryptophyte	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Falkia oblonga</i>	Native	Forb (herb)	Hemeryptophyte	Perennial	Non-clonal	No spines	Evergreen	Unassisted dispersal	Biotic
<i>Felicia muricata</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Cazania krebiana</i> var. <i>serrulata</i>	Native	Forb (herb)	Hemeryptophyte	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Biotic
<i>Geigeria burkei</i>	Native	Forb (herb)	Chamaephytes	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Biotic
<i>Gladiolus crassifolius</i>	Native	Forb (herb)	Chamaephytes	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Biotic
<i>Gladiolus perneabilis</i>	Native	Forb (herb)	Geophytes	Perennial	Clonal below ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Gladiolus trianthos</i>	Native	Forb (herb)	Geophytes	Perennial	Clonal below ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Gnildia capitata</i>	Exotic	Tree	Phanerophytes	Perennial	Non-clonal	Spines	Deciduous	Internal animal transport	Biotic
<i>Gomphocarpus fruticosus</i>	Native	Forb (herb)	Chamaephytes	Perennial	Clonal below ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Gomphrena celosioides</i>	Native	Shrub	Phanerophytes	Perennial	Non-clonal	No spines	Evergreen	Wind dispersal	Biotic
<i>Grewia flava</i>	Exotic	Forb (herb)	Phanerophytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Guellemnea densa</i>	Native	Forb (herb)	Phanerophytes	Perennial	Clonal above ground	No spines	Deciduous	External animal	Abiotic
<i>Gymnosporia buxifolia</i>	Native	Shrub	Phanerophytes	Perennial	Non-clonal	Spines	Deciduous	Internal animal transport	Biotic
<i>Haemanthus montanus</i>	Native	Forb	Geophytes	Perennial	Clonal below ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Haplocarpha lyata</i>	Native	Forb (herb)	Hemeryptophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Haplocarpha scaposa</i>	Native	Forb (herb)	Hemeryptophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Helichrysum acutatum</i>	Native	Forb (herb)	Hemeryptophytes	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Abiotic
<i>Helichrysum aureum</i> var. <i>monocephalum</i>	Native	Forb (herb)	Hemeryptophytes	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Abiotic
<i>Helichrysum caespitium</i>	Native	Forb (herb)	Hemeryptophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Helichrysum callicomum</i>	Native	Forb (herb)	Hemeryptophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Helichrysum nudifolium</i>	Native	Forb (herb)	Hemeryptophytes	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Abiotic
<i>Helichrysum rugulosum</i>	Native	Forb (herb)	Hemeryptophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Heliotropium amplexicaule</i>	Exotic	Forb (herb)	Chamaephytes	Perennial	Clonal below ground	No spines	Deciduous	Unassisted dispersal	Abiotic
<i>Hermannia coccocarpa</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Hermannia depressa</i>	Native	Forb (herb)	Hemeryptophytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Hermannia glanduligera</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Heteropogon contortus</i>	Native	Graminoid	Hemeryptophytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Hibiscus aethiopicus</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Hibiscus microcarpus</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Hibiscus pusillus</i>	Native	Forb (herb)	Hemeryptophytes	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Biotic
<i>Hibiscus trionum</i>	Native	Forb (herb)	Therophyte	Annual	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Hyparrhenia hirta</i>	Native	Graminoid	Hemeryptophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Hypochoeris radicata</i>	Exotic	Forb (herb)	Geophytes	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Biotic
<i>Hypoxis hemerocallidea</i>	Native	Forb (herb)	Geophytes	Perennial	Clonal below ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Hypoxis iridifolia</i>	Native	Forb (herb)	Geophytes	Perennial	Clonal below ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Hypoxis rigidula</i>	Native	Forb (herb)	Geophytes	Perennial	Clonal below ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Indigostrum burkeanum</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Indigofera cryptantha</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Indigofera daleoides</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Indigofera filipes</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic

Table F.1 continue

Species name	Status	Growth form	Life form	Life span	Clonality	Spinescence	Leaf periodicity	Dispersal	Pollination
<i>Indigofera hecayantha</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Indigofera heterotricha</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Indigofera nebrowniana</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Indigofera</i> sp. 1	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Indigofera</i> sp. 2	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Indigofera zeyheri</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous leaves	Unassisted dispersal	Biotic
<i>Ipomoea crassipes</i>	Native	Forb (herb)	Hemieriphiophytes	Perennial	Non-clonal	No spines	Deciduous leaves	Unassisted dispersal	Biotic
<i>Ipomoea hohlii</i>	Native	Forb (herb)	Hemieriphiophytes	Perennial	Non-clonal	No spines	Deciduous leaves	Unassisted dispersal	Biotic
<i>Ipomoea oblongata</i>	Native	Forb (herb)	Hemieriphiophytes	Perennial	Non-clonal	No spines	Deciduous leaves	Unassisted dispersal	Biotic
<i>Ipomoea obscura</i>	Native	Forb (herb)	Hemieriphiophytes	Perennial	Non-clonal	No spines	Deciduous leaves	Unassisted dispersal	Biotic
<i>Ipomoea oenotherae</i> var. <i>oenotherae</i>	Native	Forb (herb)	Hemieriphiophytes	Perennial	Clonal below ground	No spines	Deciduous leaves	Unassisted dispersal	Biotic
<i>Ipomoea purpurea</i>	Exotic	Forb (herb)	Hemieriphiophytes	Perennial	Clonal below ground	No spines	Deciduous leaves	Unassisted dispersal	Biotic
<i>Ipomoea sinensis</i>	Exotic	Forb (herb)	Therophytes	Annual	Non-clonal	No spines	Deciduous leaves	Unassisted dispersal	Biotic
<i>Ipomoea</i> sp.	Native	Forb (herb)	Therophytes	Annual	Non-clonal	No spines	Deciduous leaves	Unassisted dispersal	Biotic
<i>Jamesbrittenia aurantiaca</i>	Native	Forb (herb)	Hemieriphiophytes	Perennial	Non-clonal	No spines	Deciduous leaves	Unassisted dispersal	Biotic
<i>Kohautia amarythica</i>	Native	Forb (herb)	Hemieriphiophytes	Perennial	Clonal below ground	No spines	Semi evergreen	Unassisted dispersal	Biotic
<i>Kohautia caespitosa</i>	Native	Forb (herb)	Hemieriphiophytes	Perennial	Clonal below ground	No spines	Deciduous leaves	Unassisted dispersal	Biotic
<i>Kohautia virgata</i>	Exotic	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous leaves	Unassisted dispersal	Biotic
<i>Kyllinga alba</i>	Native	Forb (herb)	Hemieriphiophytes	Perennial	Clonal below ground	No spines	Deciduous leaves	Unassisted dispersal	Biotic
<i>Lactuca inermis</i>	Native	Forb (herb)	Hemieriphiophytes	Perennial	Clonal below ground	No spines	Evergreen	Wind dispersal	Abiotic
<i>Lactuca serriola</i>	Exotic	Forb (herb)	Therophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Lantana rugosa</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Ledeboaria cooperi</i>	Native	Forb (herb)	Geophytes	Perennial	Non-clonal	No spines	Deciduous	Internal animal transport	Biotic
<i>Ledeboaria ovatifolia</i>	Native	Forb (herb)	Geophytes	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Biotic
<i>Ledeboaria revoluta</i>	Native	Forb (herb)	Geophytes	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Biotic
<i>Lepidium bonariense</i>	Native	Forb (herb)	Geophytes	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Biotic
<i>Lepidium didymum</i>	Exotic	Forb (herb)	Therophytes	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Leucas capensis</i>	Exotic	Forb (herb)	Therophytes	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Liliaceae</i> sp.	Native	Forb (herb)	Therophytes	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Abiotic
<i>Lippia scaberrima</i>	Native	Shrub	Chamaephytes	Perennial	Clonal below ground	No spines	Semi-Evergreen	Unassisted dispersal	Abiotic
<i>Lotononis calycina</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Abiotic
<i>Lotononis lutei</i>	Native	Forb (herb)	Hemieriphiophytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Abiotic
<i>Malvastrum coromandelianum</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Abiotic
<i>Mamillea parviflora</i> var. <i>limonioides</i>	Native	Forb (herb)	Therophytes	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Abiotic
<i>Medicago laciniosa</i>	Exotic	Forb (herb)	Therophytes	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Abiotic
<i>Medicago sativa</i>	Exotic	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Abiotic
<i>Melia azedarach</i>	Exotic	Forb (herb)	Therophytes	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Abiotic
<i>Melilotus albus</i>	Exotic	Forb (herb)	Therophytes	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Abiotic
<i>Melilotus nigellus</i>	Native	Forb (herb)	Hemieriphiophytes	Perennial	Non-clonal	No spines	Semi-Evergreen	Unassisted dispersal	Abiotic
<i>Melilotus repens</i>	Native	Forb (herb)	Therophytes	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Abiotic
<i>Menodora africana</i>	Native	Graminoid	Hemieriphiophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Merremia tridenata</i>	Native	Forb (herb)	Chamaephytes	Perennial	Clonal below ground	No spines	Deciduous	Unassisted dispersal	Abiotic
<i>Merrillia plumbea</i>	Native	Vine (Climber)	Hemieriphiophytes	Perennial	Non-clonal	No spines	Semi-Evergreen	Unassisted dispersal	Abiotic
<i>Microchloa calfra</i>	Native	Forb (herb)	Geophytes	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Abiotic

Table F.1 continue

Species name	Status	Growth form	Life form	Life span	Clonality	Spinescence	Leaf periodicity	Dispersal	Pollination
<i>Mirabilis jalapa</i>	Exotic	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Modiola caroliniana</i>	Exotic	Forb (herb)	Hemicyptophytes	Perennial	Clonal above ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Monsonia angustifolia</i>	Native	Forb (herb)	Therophytes	Annual	Non-clonal	No spines	Deciduous	External animal transport	Biotic
<i>Morus nigra</i>	Exotic	Tree	Phanerophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Nidorella anomala</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Nidorella hottentotica</i>	Native	Forb (herb)	Chamaephytes	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Biotic
<i>Nolletia rarifolia</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Oenothera indecora</i>	Exotic	Forb (herb)	Therophytes	Annual	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Oenothera rosea</i>	Exotic	Forb (herb)	Therophytes	Annual	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Oenothera tetragyna</i>	Exotic	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Orbea lutea</i>	Native	Succulents	Hemicyptophytes	Perennial	Non-clonal	Spines	Evergreen	Unassisted dispersal	Biotic
<i>Ornithogalum flexuosum</i>	Native	Forb (herb)	Geophytes	Perennial	Clonal below ground	No spines	Semi-Evergreen	Wind dispersal	Biotic
<i>Ornithogalum tenuifolium</i>	Native	Forb (herb)	Geophytes	Perennial	Clonal below ground	No spines	Semi-Evergreen	Wind dispersal	Biotic
<i>Oropetium capense</i>	Native	Graminoid	Hemicyptophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Osteospermum muricatum</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Oxalis corniculata</i>	Exotic	Forb (herb)	Hemicyptophytes	Perennial	Clonal above ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Oxalis obliquifolia</i>	Native	Forb (herb)	Hemicyptophytes	Perennial	Clonal below ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Panicum coloratum</i>	Native	Graminoid	Hemicyptophytes	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Biotic
<i>Panicum maximum</i>	Native	Graminoid	Hemicyptophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Parinari capensis</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Internal animal transport	Biotic
<i>Paspalum dilatatum</i>	Exotic	Graminoid	Hemicyptophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Paspalum urvillei</i>	Native	Graminoid	Hemicyptophytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Pavonia burchellii</i>	Native	Forb (herb)	Chamaephytes	Perennial	Clonal below ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Pearsonia cajanifolia</i>	Native	Graminoid	Hemicyptophytes	Perennial	Non-clonal	No spines	Deciduous	Internal animal transport	Biotic
<i>Pennisetum clandestinum</i>	Exotic	Graminoid	Hemicyptophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Pentarrhenum insipidum</i>	Native	Vine (Climber)	Chamaephytes	Perennial	Clonal above ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Pentzia globosa</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Phyllanthus laevidens</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Phyllanthus maderaspatensis</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Physalis angulata</i>	Exotic	Forb (herb)	Therophytes	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Physalis sp.</i>	Exotic	Forb	Hemicyptophytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Physalis viscosa</i>	Exotic	Forb (herb)	Chamaephytes	Perennial	Clonal below ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Pinus sp.</i>	Exotic	Tree	Phanerophytes	Perennial	Non-clonal	No spines	Evergreen	Wind dispersal	Biotic
<i>Plantago lanceolata</i>	Exotic	Forb (herb)	Hemicyptophytes	Perennial	Non-clonal	No spines	Semi-Evergreen	Unassisted dispersal	Biotic
<i>Pogonarthria squarrosa</i>	Native	Graminoid	Hemicyptophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Pollichia campestris</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Internal animal transport	Biotic
<i>Polygala amaryllacea</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Semi-Evergreen	Unassisted dispersal	Biotic
<i>Polygala hottentotica</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Semi-Evergreen	Unassisted dispersal	Biotic
<i>Populus deltoidea</i>	Exotic	Tree	Phanerophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Portulaca quadrifida</i>	Exotic	Succulents	Therophytes	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Pseudognaphalium luteo-album</i>	Exotic	Forb (herb)	Therophytes	Annual	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Pseudognaphalium undulatum</i>	Native	Forb (herb)	Therophytes	Annual	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Pterodiscus speciosus</i>	Native	Forb (herb)	Geophytes	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Biotic
<i>Pycneus macranthus</i>	Native	Forb (herb)	Hemicyptophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic

Table F.1 continue

Species name	Status	Growth form	Life form	Life span	Clonality	Spinescence	Leaf periodicity	Dispersal	Pollination
<i>Pygmaeothamnus zeyheri</i>	Native	Forb (herb)	Hemipterophytes	Perennial	Clonal below ground	No spines	Deciduous	Internal animal transport	Biotic
<i>Ranunculus multifidus</i>	Exotic	Forb (herb)	Hemipterophytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Raphionacme hirsuta</i>	Native	Forb (herb)	Geophytes	Perennial	Clonal below ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Raphionacme velutina</i>	Native	Forb (herb)	Geophytes	Perennial	Clonal below ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Rhynchosia minima</i>	Native	Vine (Climber)	Hemipterophytes	Perennial	Clonal below ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Rhynchosia tola</i>	Native	Vine (Climber)	Hemipterophytes	Perennial	Clonal below ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Rubia horrida</i>	Native	Vine (Climber)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	External animal transport	Biotic
<i>Ruellia cordata</i>	Native	Forb (herb)	Chamaephytes	Perennial	Clonal below ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Rumex crispus</i>	Exotic	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Semi-Evergreen	Unassisted dispersal	Biotic
<i>Salvia runcinata</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Scabiosa columbata</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Schinus molle</i>	Exotic	Tree	Phanerophytes	Perennial	Non-clonal	No spines	Evergreen	Wind dispersal	Biotic
<i>Schizachyrium sanguineum</i>	Native	Graminoid	Hemipterophytes	Perennial	Non-clonal	No spines	Evergreen	Internal animal transport	Biotic
<i>Schubertia pinnata</i>	Exotic	Forb (herb)	Therophytes	Annual	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Scarsia lancea</i>	Native	Tree	Phanerophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Scarsia pyroides</i>	Native	Tree	Phanerophytes	Perennial	Non-clonal	No spines	Deciduous	Internal animal transport	Biotic
<i>Scarsia rigida</i>	Native	Tree	Phanerophytes	Perennial	Non-clonal	No spines	Deciduous	Internal animal transport	Biotic
<i>Seddera suffruticosa</i>	Native	Forb (herb)	Hemipterophytes	Perennial	Non-clonal	No spines	Evergreen	Internal animal transport	Biotic
<i>Selago densiflora</i>	Native	Shrub	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Senecio consanguineus</i>	Native	Forb (herb)	Therophytes	Annual	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Senecio erubescens</i>	Native	Forb (herb)	Hemipterophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Senecio gregatus</i>	Native	Forb (herb)	Hemipterophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Senecio harveyanus</i>	Native	Forb (herb)	Hemipterophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Senecio ornatus</i>	Native	Forb (herb)	Hemipterophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Senecio venosus</i>	Native	Shrub	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Seriphium plumosum</i>	Native	Forb (herb)	Therophytes	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Abiotic
<i>Sesbania transvaalensis</i>	Native	Graminoid	Hemipterophytes	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Abiotic
<i>Setaria incrassata</i>	Native	Graminoid	Therophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Setaria nigrostris</i>	Native	Graminoid	Therophytes	Annual	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Setaria pumila</i>	Native	Graminoid	Hemipterophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Setaria sphacelata</i> var. <i>sericea</i>	Native	Graminoid	Hemipterophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Setaria sphacelata</i> var. <i>sphacelata</i>	Native	Graminoid	Hemipterophytes	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Abiotic
<i>Setaria sphacelata</i> var. <i>torta</i>	Native	Graminoid	Hemipterophytes	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Abiotic
<i>Sida dregei</i>	Exotic	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Abiotic
<i>Sida rhombifolia</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Sida spinosa</i>	Exotic	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Solanum elaeagnifolium</i>	Native	Forb (herb)	Chamaephytes	Perennial	Clonal below ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Solanum lichenstemii</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Solanum panduriforme</i>	Native	Forb (herb)	Chamaephytes	Perennial	Clonal below ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Solanum rigescens</i>	Exotic	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Sonchus dreganus</i>	Native	Forb (herb)	Hemipterophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Sonchus nanus</i>	Native	Forb (herb)	Hemipterophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Sonchus oleraceus</i>	Exotic	Forb (herb)	Therophytes	Annual	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Sonchus wilmsii</i>	Native	Forb (herb)	Hemipterophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic

Table F.1 continue

Species name	Status	Growth form	Life form	Life span	Clonality	Spinescence	Leaf periodicity	Dispersal	Pollination
<i>Sorghum halepense</i>	Exotic	Graminoid	Hemicryptophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Sphenostylis angustifolia</i>	Native	Forb (herb)	Hemicryptophytes	Perennial	Clonal below ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Sporobolus fimbriatus</i>	Native	Graminoid	Hemicryptophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Sporobolus nitens</i>	Native	Graminoid	Hemicryptophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Stachys spathulata</i>	Native	Forb (herb)	Hemicryptophytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Striga asiatica</i>	Exotic	Parasite	Therophytes	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Striga elegans</i>	Native	Parasite	Therophytes	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Striga gesnerioides</i>	Native	Parasite	Therophytes	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Tagetes minima</i>	Exotic	Forb (herb)	Therophytes	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Talinum affrum</i>	Native	Forb (herb)	Geophytes	Perennial	Non-clonal	No spines	Semi-Evergreen	Unassisted dispersal	Biotic
<i>Taraxacum officinale</i>	Exotic	Forb (herb)	Hemicryptophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Tephrosia purpurea</i>	Exotic	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Teucrium trifidum</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Themeda triandra</i>	Native	Graminoid	Hemicryptophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Thesium utile</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Evergreen	Unassisted dispersal	Biotic
<i>Tolpis capensis</i>	Native	Forb (herb)	Chamaephytes	Perennial	Clonal below ground	No spines	Deciduous	Wind dispersal	Biotic
<i>Trachypogon spicatus</i>	Native	Graminoid	Hemicryptophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Tragopogon dubius</i>	Exotic	Forb (herb)	Hemicryptophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Tragus berteronianus</i>	Native	Graminoid	Therophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Trichodesma angustifolium</i> subsp. <i>angustifolium</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Trichoneura grandiglumis</i>	Native	Graminoid	Hemicryptophytes	Perennial	Clonal above ground	No spines	Deciduous	Wind dispersal	Abiotic
<i>Trifolium repens</i>	Exotic	Forb (herb)	Hemicryptophytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Tripteris aquilana</i>	Native	Forb (herb)	Therophytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Triplaris andropogonoides</i>	Native	Graminoid	Hemicryptophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Urochloa brachyura</i>	Native	Graminoid	Hemicryptophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Urochloa mosambicensis</i>	Native	Graminoid	Hemicryptophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Urochloa panicoides</i>	Native	Graminoid	Hemicryptophytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Abiotic
<i>Valhla capensis</i>	Native	Forb (herb)	Therophytes	Annual	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Verbena aristigera</i>	Exotic	Forb (herb)	Chamaephytes	Perennial	Clonal below ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Verbena bonariensis</i>	Exotic	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Verbena officinalis</i>	Exotic	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Vernonia oligocephala</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Vernonia poskeana</i>	Native	Forb (herb)	Chamaephytes	Perennial	Clonal below ground	No spines	Semi-Evergreen	Unassisted dispersal	Biotic
<i>Vernonia stachelinoides</i>	Native	Forb (herb)	Therophytes	Annual	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Vigna vexillata</i>	Native	Forb (herb)	Chamaephytes	Perennial	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Wahlenbergia undulata</i>	Native	Forb (herb)	Chamaephytes	Perennial	Clonal below ground	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Xanthium strumarium</i>	Exotic	Forb (herb)	Hemicryptophytes	Perennial	Non-clonal	No spines	Deciduous	Unassisted dispersal	Biotic
<i>Xysmalobium undulatum</i>	Native	Forb (herb)	Therophytes	Annual	Non-clonal	No spines	Deciduous	External animal transport	Biotic
<i>Zea mays</i>	Exotic	Graminoid	Therophytes	Annual	Non-clonal	No spines	Deciduous	Internal animal transport	Abiotic
<i>Zinnia peruviana</i>	Exotic	Forb (herb)	Therophytes	Annual	Non-clonal	No spines	Deciduous	Wind dispersal	Biotic
<i>Ziziphus mucronata</i>	Native	Tree	Phanerophytes	Perennial	Non-clonal	Spines	Deciduous	Internal animal transport	Biotic
<i>Ziziphus zeyheriana</i>	Native	Shrub	Phanerophytes	Perennial	Clonal below ground	Spines	Deciduous	Internal animal transport	Biotic

APPENDIX G: Multiple regression analysis results for plant species richness, functional traits, and functional diversity

Table G.1: Correlation matrix and multiple regression results for plant species richness and diversity indices and the selected five urbanisation measures (representing pattern/process associated with urbanisation). Significant correlations (at $p < 0.05$) are indicated in bold text. Moderate linear relationships ($0.1 \leq r^2 < 0.25$) are indicated in orange, and strong linear relationships ($r^2 \geq 0.25$) in red.

Matrix variable	Intra-patch variable	Corr. direction	r value	p value	r ² value
PURBLC	Mean species richness	-	-0.187787	0.320358	0.035264
(% impervious surfaces)	Shannon's diversity index (H')	-	-0.294002	0.114802	0.086437
	Pielou's evenness index (E)	-	-0.208938	0.267836	0.043655
ED	Mean species richness	-	-0.296551	0.111544	0.087942
(fragmentation)	Shannon's diversity index (H')	-	-0.375811	0.040693	0.141234
	Pielou's evenness index (E)	-	-0.249395	0.183826	0.062198
PGRALC	Mean species richness	+	0.353275	0.055491	0.124803
(habitat loss)	Shannon's diversity index (H')	+	0.478830	0.007431	0.229278
	Pielou's evenness index (E)	+	0.403058	0.027211	0.162456
DENSPEOP	Mean species richness	-	-0.428276	0.018219	0.183420
(urbanisation)	Shannon's diversity index (H')	-	-0.433315	0.016757	0.187762
	Pielou's evenness index (E)	-	-0.328731	0.076114	0.108064

Table G.2: Correlation matrix and multiple regression results for plant functional traits and the selected five urbanisation measures (representing pattern/process associated with urbanisation). Significant correlations (at $p < 0.05$) are indicated in bold text. Moderate linear relationships ($0.1 \leq r^2 < 0.25$) are indicated in orange, and strong linear relationships ($r^2 \geq 0.25$) in red.

Matrix value	Intra-patch variable	Corr. direction	r value	p value	r ² value
PURBLC	1. Status				
(% impervious surfaces)	%Native	-	-0.504098	0.0045	0.2541
	%Exotic	+	0.504098	0.0045	0.2541
	2. Growth form				
	%Forb	-	-0.347144	0.0602	0.1205
	%Graminoid	+	0.159456	0.4000	0.0250
	%Shrub	-	-0.214419	0.2552	0.0460
	%Tree	+	0.440770	0.0148	0.1943
	%Succulent	-	-0.150576	0.4271	0.0227
	%Vine	+	0.346752	0.0605	0.1202
	%Parasite	-	-0.038680	0.8392	0.0015
	3. Life form				
	%Phanerophyte	+	0.412661	0.0234	0.1703
	%Hemicryptophyte	-	-0.029211	0.8782	0.0009
	%Chamaephyte	-	-0.043909	0.8178	0.0019
	%Therophyte	+	0.104504	0.5826	0.0109
	%Geophyte	-	-0.548437	0.0017	0.3008
	4. Life span				
	%Perennial	-	-0.132201	0.4862	0.0175
	%Annual	+	0.132201	0.4862	0.0175
	5. Clonality				
	%Non-clonal	+	0.405263	0.0263	0.1642
	%Clonal belowground	-	-0.476276	0.0078	0.2268
	%Clonal aboveground	+	0.288733	0.1218	0.0834
	%Clonal above-and belowground	+	0.187026	0.3324	0.0350

(PURBLC)

Table G.2 continue

	6. Spinescence				
	%No spines	+	0.106494	0.5754	0.0113
	%Spines	-	-0.106494	0.5754	0.0113
	7. Leaf periodicity				
	%Deciduous	-	-0.096174	0.6132	0.0092
	%Evergreen	-	-0.272873	0.1446	0.0745
	%Semi-evergreen	+	0.472326	0.0084	0.2231
	8. Primary dispersal method				
	%Unassisted dispersal	+	0.137817	0.4677	0.0190
	%Wind dispersal	-	-0.212892	0.2587	0.0453
	%Internal animal dispersal	+	0.010093	0.9578	0.0001
	%External animal dispersal	+	0.055015	0.7728	0.0030
	%Unassisted/internal animal dispersal	+	0.416878	0.0219	0.1738
	9. Primary pollination vector				
	%Abiotic pollination	-	-0.097392	0.6087	0.0095
	%Biotic pollination	+	0.097392	0.6087	0.0095
ED (fragmentation)	1. Status				
	%Native	-	-0.516819	0.003453	0.267102
	%Exotic	+	0.516819	0.003453	0.267102
	2. Growth form				
	%Forb	-	-0.357265	0.052601	0.127638
	%Graminoid	+	0.216132	0.251329	0.046713
	%Shrub	-	-0.217665	0.247901	0.047378
	%Tree	+	0.465496	0.009535	0.216686
	%Succulent	-	-0.154311	0.415545	0.023812
	%Vine	+	0.216261	0.251040	0.046769
	%Parasite	-	-0.037685	0.843271	0.001420
	3. Life form				
	%Phanerophyte	+	0.387417	0.034412	0.150092
	%Hemicryptophyte	+	0.025569	0.893308	0.000654
	%Chamaephyte	-	-0.061391	0.747251	0.003769
	%Therophyte	+	0.114126	0.548172	0.013025
	%Geophyte	-	-0.605986	0.000387	0.367219
	4. Life span				
	%Perennial	-	-0.154895	0.413759	0.023992
	%Annual	+	0.154895	0.413759	0.023992
	5. Clonality				
	%Non-clonal	+	0.431245	0.017345	0.185972
	%Clonal belowground	-	-0.545707	0.001814	0.297796
	%Clonal aboveground	+	0.406950	0.025625	0.165608
	%Clonal above-and belowground	+	0.182679	0.333934	0.033372
	6. Spinescence				
	%No spines	+	0.175327	0.354078	0.030740
	%Spines	-	-0.175327	0.354078	0.030740
	7. Leaf periodicity				
	%Deciduous	-	-0.017547	0.926671	0.000308
	%Evergreen	-	-0.339241	0.066660	0.115084
	%Semi-evergreen	+	0.435236	0.016225	0.189430
	8. Primary dispersal method				
	%Unassisted dispersal	+	0.102729	0.589064	0.010553
	%Wind dispersal	-	-0.174340	0.356837	0.030394
	%Internal animal dispersal	+	0.025595	0.893203	0.000655
	%External animal dispersal	-	-0.032151	0.866066	0.001034
	%Unassisted/internal animal dispersal	+	0.458078	0.010909	0.209836
	9. Primary pollination vector				
	%Abiotic pollination	+	0.017645	0.926264	0.000311
	%Biotic pollination	-	-0.017645	0.926264	0.000311

Table G.2 continue

PGRALC (habitat loss)	1. Status				
	%Native	+	0.510794	0.003922	0.260911
	%Exotic	-	-0.510794	0.003922	0.260911
	2. Growth form				
	%Forb	+	0.193316	0.306051	0.037371
	%Graminoid	-	-0.257233	0.169978	0.066169
	%Shrub	+	0.317801	0.087009	0.100997
	%Tree	-	-0.319520	0.085221	0.102093
	%Succulent	+	0.259315	0.166426	0.067244
	%Vine	-	-0.125799	0.507721	0.015825
	%Parasite	+	0.078974	0.678269	0.006237
	3. Life form				
	%Phanerophyte	-	-0.248132	0.186130	0.061569
	%Hemicryptophyte	+	0.155995	0.410410	0.024334
	%Chamaephyte	+	0.079025	0.678071	0.006245
	%Therophyte	-	-0.252796	0.177724	0.063906
	%Geophyte	+	0.492881	0.005653	0.242932
	4. Life span				
	%Perennial	+	0.292532	0.116712	0.085575
	%Annual	-	-0.292532	0.116712	0.085575
	5. Clonality				
	%Non-clonal	-	-0.450153	0.012557	0.202637
	%Clonal belowground	+	0.485920	0.006482	0.236119
	%Clonal aboveground	-	-0.196046	0.299141	0.038434
	%Clonal above-and belowground	-	-0.288549	0.122009	0.083261
	6. Spinescence				
	%No spines	+	0.030251	0.873917	0.000915
	%Spines	-	-0.030251	0.873917	0.000915
	7. Leaf periodicity				
	%Deciduous	+	0.061773	0.745727	0.003816
	%Evergreen	+	0.220291	0.242101	0.048528
	%Semi-evergreen	-	-0.357528	0.052415	0.127826
	8. Primary dispersal method				
	%Unassisted dispersal	-	-0.036380	0.848635	0.001324
	%Wind dispersal	+	0.048183	0.800392	0.002322
	%Internal animal dispersal	+	0.063679	0.738151	0.004055
	%External animal dispersal	+	0.156876	0.407739	0.024610
	%Unassisted/internal animal dispersal	-	-0.456038	0.011315	0.207971
	9. Primary pollination vector				
	%Abiotic pollination	+	0.202598	0.282953	0.041046
	%Biotic pollination	-	-0.202598	0.282953	0.041046
DENSPEOP (urbanisation)	1. Status				
	%Native	-	-0.584005	0.000703	0.341062
	%Exotic	+	0.584005	0.000703	0.341062
	2. Growth form				
	%Forb	-	-0.181807	0.336285	0.033054
	%Graminoid	+	0.395871	0.030350	0.156714
	%Shrub	-	-0.406758	0.025702	0.165452
	%Tree	+	0.201703	0.285132	0.040684
	%Succulent	-	-0.307820	0.097961	0.094753
	%Vine	+	0.107282	0.572568	0.011509
	%Parasite	-	-0.103796	0.585180	0.010774
	3. Life form				
	%Phanerophyte	+	0.136879	0.470746	0.018736
	%Hemicryptophyte	-	-0.212871	0.258726	0.045314
	%Chamaephyte	-	-0.266423	0.154700	0.070981
	%Therophyte	+	0.427905	0.018331	0.183103
	%Geophyte	-	-0.369285	0.044608	0.136371

Table G.2 continue

(DENSPEOP)

4. Life span					
%Perennial	-	-0.445522	0.013613	0.198490	
%Annual	+	0.445522	0.013613	0.198490	
5. Clonality					
%Non-clonal	+	0.498404	0.005061	0.248406	
%Clonal belowground	-	-0.518106	0.003360	0.268433	
%Clonal aboveground	+	0.146900	0.438557	0.021580	
%Clonal above-and belowground	+	0.412699	0.023422	0.170320	
6. Spinescence					
%No spines	-	-0.055467	0.770958	0.003077	
%Spines	+	0.055467	0.770958	0.003077	
7. Leaf periodicity					
%Deciduous	-	-0.002423	0.989861	0.000006	
%Evergreen	-	-0.249321	0.183961	0.062161	
%Semi-evergreen	+	0.304229	0.102146	0.092555	
8. Primary dispersal method					
%Unassisted dispersal	+	0.024647	0.897135	0.000607	
%Wind dispersal	-	-0.074520	0.695529	0.005553	
%Internal animal dispersal	-	-0.191744	0.310079	0.036766	
%External animal dispersal	-	-0.012364	0.948298	0.000153	
%Unassisted/internal animal dispersal	+	0.669312	0.000052	0.447979	
9. Primary pollination vector					
%Abiotic pollination	-	-0.021738	0.909223	0.000473	
%Biotic pollination	+	0.021738	0.909223	0.000473	

Table G.3: Correlation matrix and multiple regression results for plant functional diversity indices and the selected five urbanisation measures (representing pattern/process associated with urbanisation). Significant correlations (at $p < 0.05$) are indicated in bold text. Moderate linear relationships ($0.1 \leq r^2 < 0.25$) are indicated in orange, and strong linear relationships ($r^2 \geq 0.25$) in red.

Matrix value	Intra-patch variable	Corr. direction	r value	p value	r ² value
PURBLC	Functional richness (FRic)	-	-0.062451	0.743032	0.003900
(% impervious surfaces)	Functional evenness (FEve)	+	0.422524	0.020015	0.178527
	Functional divergence (FDiv)	-	-0.075886	0.690218	0.005759
	Functional dispersion (FDis)	-	-0.042766	0.822453	0.001829
	Functional specialisation (FSpe)	-	-0.129305	0.495868	0.016720
	Functional specialisation (FSpe)	-	-0.129305	0.495868	0.016720
ED (fragmentation)	Functional richness (FRic)	-	-0.187013	0.322391	0.034974
	Functional evenness (FEve)	+	0.410571	0.024218	0.168569
	Functional divergence (FDiv)	-	-0.097133	0.609615	0.009435
	Functional dispersion (FDis)	+	0.037531	0.843907	0.001409
	Functional specialisation (FSpe)	-	-0.146575	0.439581	0.021484
PGRALC (habitat loss)	Functional richness (FRic)	+	0.104223	0.583630	0.010862
	Functional evenness (FEve)	-	-0.560394	0.001278	0.314041
	Functional divergence (FDiv)	-	-0.001961	0.991795	0.000004
	Functional dispersion (FDis)	+	0.165495	0.382126	0.027389
	Functional specialisation (FSpe)	+	0.154569	0.414754	0.023892
DENSPEOP (urbanisation)	Functional richness (FRic)	-	-0.103184	0.587404	0.010647
	Functional evenness (FEve)	+	0.477227	0.007661	0.227746
	Functional divergence (FDiv)	+	0.009619	0.959767	0.000093
	Functional dispersion (FDis)	-	-0.029437	0.877281	0.000867
	Functional specialisation (FSpe)	+	0.058124	0.760300	0.003378

APPENDIX H: Tukey's HSD test (ANOVA) results for plant species richness, functional traits, and functional diversity

Table H.1: Tukey's HSD for unequal N (ANOVA) to indicate significant differences between mean species richness and species diversity indices for grassland fragments in rural/peri-urban and urban surroundings. Significant differences at $p < 0.05$ are indicated in red.

Mean species richness	Rural / peri-urban M=54.164	Urban M=47.561
	Rural / peri-urban Urban	0.115071
Shannon's diversity index (H')	Rural / peri-urban M=3.0900	Urban M=2.7179
	Rural / peri-urban Urban	0.049506
Pielou's evenness index (E)	Rural / peri-urban M=.68909	Urban M=.64737
	Rural / peri-urban Urban	0.185576

Table H.2: Tukey's HSD for unequal N (ANOVA) to indicate significant differences between the mean % species richness consisting of plant species characterised by certain functional traits for grassland fragments in rural/peri-urban and urban surroundings. Significant differences at $p < 0.05$ are indicated in red.

1. Status

% Native	Rural / peri-urban M=83.262	Urban M=70.538
	Rural / peri-urban Urban	0.004832
% Exotic	Rural / peri-urban M=16.738	Urban M=29.462
	Rural / peri-urban Urban	0.004832

2. Growth form

% Graminoid	Rural / peri-urban M=23.409	Urban M=25.702
	Rural / peri-urban Urban	0.149649
% Forb	Rural / peri-urban M=65.224	Urban M=61.709
	Rural / peri-urban Urban	0.047385
% Shrub	Rural / peri-urban M=5.6812	Urban M=4.7857
	Rural / peri-urban Urban	0.344660
% Tree	Rural / peri-urban M=1.0041	Urban M=2.9352
	Rural / peri-urban Urban	0.038893

Table H.2 continue

% Succulent	Rural / peri-urban M=1.0806	Urban M=.78535
	Rural / peri-urban Urban	0.575039
		0.575039
% Vine	Rural / peri-urban M=3.2049	Urban M=3.7100
	Rural / peri-urban Urban	0.478474
		0.478474
% Parasite	Rural / peri-urban M=.39593	Urban M=.37392
	Rural / peri-urban Urban	0.942615
		0.942615

3. Life form

% Phanerophyte	Rural / peri-urban M=3.7308	Urban M=5.5960
	Rural / peri-urban Urban	0.095738
		0.095738
% Hemicryptophyte	Rural / peri-urban M=44.708	Urban M=44.200
	Rural / peri-urban Urban	0.797391
		0.797391
% Chamaephyte	Rural / peri-urban M=28.968	Urban M=28.212
	Rural / peri-urban Urban	0.751107
		0.751107
% Therophyte	Rural / peri-urban M=13.138	Urban M=15.812
	Rural / peri-urban Urban	0.384566
		0.384566
% Geophyte	Rural / peri-urban M=9.4554	Urban M=6.1804
	Rural / peri-urban Urban	0.001579
		0.001579

4. Life span

% Perennial	Rural / peri-urban M=86.552	Urban M=82.978
	Rural / peri-urban Urban	0.250456
		0.250456
% Annual	Rural / peri-urban M=13.448	Urban M=17.022
	Rural / peri-urban Urban	0.250456
		0.250456

Table H.2 continue

5. Clonality		
% Non-clonal	Rural / peri-urban M=67.758	Urban M=72.465
	Rural / peri-urban	0.011998
	Urban	0.011998
% Clonal belowground	Rural / peri-urban M=26.500	Urban M=19.970
	Rural / peri-urban	0.002375
	Urban	0.002375
% Clonal aboveground	Rural / peri-urban M=4.5520	Urban M=6.1725
	Rural / peri-urban	0.083603
	Urban	0.083603
% Clonal above- and belowground	Rural / peri-urban M=1.1908	Urban M=1.3920
	Rural / peri-urban	0.356031
	Urban	0.356031
6. Spinescence		
% No spines	Rural / peri-urban M=92.375	Urban M=92.876
	Rural / peri-urban	0.546990
	Urban	0.546990
% Spines	Rural / peri-urban M=7.6253	Urban M=7.1245
	Rural / peri-urban	0.546990
	Urban	0.546990
7. Leaf periodicity		
% Deciduous	Rural / peri-urban M=83.329	Urban M=83.366
	Rural / peri-urban	0.979723
	Urban	0.979723
% Evergreen	Rural / peri-urban M=11.785	Urban M=9.9078
	Rural / peri-urban	0.099191
	Urban	0.099191
% Semi-evergreen	Rural / peri-urban M=4.8849	Urban M=6.7265
	Rural / peri-urban	0.047777
	Urban	0.047777
8. Primary dispersal mode		
% Unassisted dispersal	Rural / peri-urban M=36.064	Urban M=36.639
	Rural / peri-urban	0.761121
	Urban	0.761121
% Wind dispersal	Rural / peri-urban M=52.006	Urban M=50.205
	Rural / peri-urban	0.463930
	Urban	0.463930

Table H.2 continue

% Internal animal dispersal	Rural / peri-urban M=4.9639	Urban M=5.1293
	Rural / peri-urban	0.871812
	Urban	0.871812
% External animal dispersal	Rural / peri-urban M=5.6289	Urban M=5.3536
	Rural / peri-urban	0.715627
	Urban	0.715627
% Unassisted/internal animal dispersal	Rural / peri-urban M=1.3370	Urban M=2.6716
	Rural / peri-urban	0.003929
	Urban	0.003929

9. Primary pollination vector

% Abiotic pollination	Rural / peri-urban M=28.506	Urban M=28.592
	Rural / peri-urban	0.957903
	Urban	0.957903
% Biotic pollination	Rural / peri-urban M=71.494	Urban M=71.408
	Rural / peri-urban	0.957903
	Urban	0.957903

Table H.3: Tukey's HSD for unequal N (ANOVA) to indicate significant differences between the mean functional diversity indices for grassland fragments in rural/peri-urban and urban surroundings. Significant differences at $p < 0.05$ are indicated in red.

Functional richness (FRic)	Rural / peri-urban M=7.9645	Urban M=7.6174
	Rural / peri-urban	0.593046
	Urban	0.593046
Functional evenness (FEve)	Rural / peri-urban M=.48273	Urban M=.53368
	Rural / peri-urban	0.009094
	Urban	0.009094
Functional divergence (FDiv)	Rural / peri-urban M=.92091	Urban M=.91053
	Rural / peri-urban	0.550311
	Urban	0.550311
Functional dispersion (FDis)	Rural / peri-urban M=1.1627	Urban M=1.1774
	Rural / peri-urban	0.849831
	Urban	0.849831
Functional specialisation (FSpe)	Rural / peri-urban M=1.8227	Urban M=1.7984
	Rural / peri-urban	0.377529
	Urban	0.377529

APPENDIX I: Scoring method and ranges of the eleven Soil Surface Assessment (SSA) indicators.

Table I.1: Specific scores and class values for the eleven soil surface indicators assessed during the SSA step of LFA (after Tongway & Hindley, 2004).

1. Vegetation canopy /rock cover (rainsplash protection)

Projected aerial cover	Class	Interpretation
<1%	1	No rainsplash protection
1-15%	2	Low rainsplash protection
15-30%	3	Moderate rainsplash protection
30-50%	4	High rainsplash protection
>50%	5	Very high rainsplash protection

2. Perennial vegetation cover

Basal/canopy cover	Class	Interpretation
>1%	1	No subsurface contribution
1-10%	2	Low subsurface contribution
10-20%	3	Moderate subsurface contribution
>20%	4	High subsurface contribution

3. Litter

Plant litter cover	Class
<10%	1
10-25%	2
25-50%	3
50-75%	4
75-100%	5
100%; >20mm thick	6
100%; 21-70mm thick	7
100%; 70-120mm	8
100%; 120-170mm thick	9
100%; >170mm thick	10
Litter origin	Symbol
Local	L
Transported	T
Litter degree of decomposition	
Nil	N
Slight	S
Moderate	M
Extensive	E

4. Cryptogam cover

Biological crust cover	Class	Interpretation
N/A	0	No stable crust present
<1%	1	No contribution
1-10%	2	Slight contribution
10-50%	3	Moderate contribution
>50%	4	Extensive contribution

Table I.1 continue

5. Crust brokenness

Crust brokenness	Class
No crust present	0
Crust present; extensively broken	1
Crust present; moderately broken	2
Crust present; slightly broken	3
Crust present; intact, smooth	4

6. Soil erosion type and severity

Erosion type	Symbol
Sheeting	E
Pedestal	P
Terracette	T
Rill	R
Scalding	S
Erosion severity	Class
Severe	1
Moderate	2
Slight	3
Insignificant	4

7. Deposited materials

Deposited material (alluvium)	Class	Interpretation
>50%	1	Extensive amount
20-50%	2	Moderate amount
5-20%	3	Slight amount
0-5%	4	None/small amount

8. Soil surface roughness

Soil surface roughness (microtopography)	Class	Interpretation
<3mm relief	1	Smooth
3-8mm relief	2	Low retention
8-25mm relief	3	Moderate retention
Deep depressions with visible base	4	Large retention
Very deep depressions/cracks; >100m	5	Extensive retention

9. Surface resistance to disturbance

Soil surface nature	Class	Interpretation
Loose sandy surface	1	Surface is not crusted
Crust easily broken	2	Surface easily penetrated
Moderately hard crust	3	Moderately hard physical crust present
Hard and brittle crust	4	Needs metal instrument to break hard surface
Non-brittle	5	Soil surface shows "springiness"; self-mulching clay; no physical crust under dense perennial grass sward

Table I.1 continue

10. Slake test		
Soil fragment behaviour in distilled water	Class	Interpretation
N/A	0	No coherent fragments
Very unstable	1	Fragment collapses in less than 5 sec.
Unstable	2	Fragment collapses in 5-10 sec; >50% of sub-crust material slumps
Moderately stable	3	Surface crust remains intact; <50% sub-crust slumping
Very stable	4	Fragment remains intact with no swelling
11. Soil texture		
Texture (determined by moist bolus test)	Class	Interpretation
Silty clay to heavy clay	1	Very slow infiltration rate
Sandy clay loam to sandy clay	2	Slow infiltration rate
Sandy loam to silt loam	3	Moderate infiltration rate
Sandy to clayey sand	4	High infiltration rate

Supplementary references

Tongway, DJ. & Hindley, N. 2004. Landscape function analysis: procedures for monitoring and assessing landscapes. With special reference to minesites and rangelands. Canberra: CSIRO Sustainable Ecosystems.

APPENDIX J: Multiple regression analysis results for landscape function

Table J.1: Correlation matrix and multiple regression results for physical landscape attributes and the selected five urbanisation measures (representing pattern/process associated with urbanisation). No significant correlations (at $p < 0.05$) were evident.

Matrix value	Intra-patch variable	Corr. direction	r value	p value	r ² value
PURBLC (% impervious surfaces)	Landscape organisation index (LOI)	-	-0.045428	0.811594	0.002064
	Mean patch width (cm)	+	0.037476	0.844133	0.001404
	Interpatch length (cm)	+	0.022719	0.905144	0.000516
	Total patch area (m ²)	-	-0.075173	0.692987	0.005651
	Longest interpatch (cm)	-	-0.172660	0.361564	0.029811
ED (fragmentation)	Landscape organisation index (LOI)	+	0.017559	0.926621	0.000308
	Mean patch width (cm)	+	0.158828	0.401855	0.025226
	Interpatch length (cm)	+	0.067486	0.723090	0.004554
	Total patch area (m ²)	+	0.009178	0.961607	0.000084
	Longest interpatch (cm)	-	-0.243255	0.195213	0.059173
PGRALC (habitat loss)	Landscape organisation index (LOI)	-	-0.147620	0.436293	0.021792
	Mean patch width (cm)	-	-0.175142	0.354594	0.030675
	Interpatch length (cm)	-	-0.002572	0.989237	0.000007
	Total patch area (m ²)	-	-0.019659	0.917877	0.000386
	Longest interpatch (cm)	+	0.098082	0.606107	0.009620
DENSPEOP (urbanisation)	Landscape organisation index (LOI)	+	0.104074	0.584171	0.010831
	Mean patch width (cm)	+	0.146613	0.439462	0.021495
	Interpatch length (cm)	-	-0.086309	0.650191	0.007449
	Total patch area (m ²)	+	0.005690	0.976192	0.000032
	Longest interpatch (cm)	-	-0.217752	0.247709	0.047416

Table J.2: Correlation matrix and multiple regression results for the soil surface indicators and total SSA functionality, and the selected five urbanisation measures (representing pattern/process associated with urbanisation). Significant correlations (at $p < 0.05$) are indicated in bold text. Moderate linear relationships ($0.1 \leq r^2 < 0.25$) are indicated in orange and strong linear relationships ($r^2 \geq 0.25$) in red.

Matrix value	Intra-patch variable	Corr. direction	r value	p value	r ² value
PURBLC (% impervious surfaces)	Stability	+	0.012876	0.946159	0.000166
	Infiltration	-	-0.422318	0.020083	0.178353
	Nutrient Cycling	-	-0.350207	0.057797	0.122645
	Total SSA functionality	-	-0.278941	0.135513	0.077808
ED (fragmentation)	Stability	+	0.054395	0.775271	0.002959
	Infiltration	-	-0.340479	0.065609	0.115926
	Nutrient Cycling	-	-0.275469	0.140651	0.075883
	Total SSA functionality	-	-0.191157	0.311590	0.036541
PGRALC (habitat loss)	Stability	+	0.126066	0.506814	0.015893
	Infiltration	+	0.364243	0.047834	0.132673
	Nutrient Cycling	+	0.301887	0.104947	0.091136
	Total SSA functionality	+	0.304455	0.101879	0.092693
DENSPEOP (urbanisation)	Stability	+	0.012863	0.946213	0.000165
	Infiltration	-	-0.202741	0.282606	0.041104
	Nutrient Cycling	-	-0.134170	0.479653	0.018002
	Total SSA functionality	-	-0.148586	0.433262	0.022078

Table J.3: Correlation matrix and multiple regression results for physical landscape attributes soil surface indicators and SSA parameters. Significant correlations (at $p < 0.05$) are indicated in bold text. Moderate linear relationships ($0.1 \leq r^2 < 0.25$) are indicated in orange and strong linear relationships ($r^2 \geq 0.25$) in red.

Physical landscape attribute	SSA parameter	Corr. Direction	r value	p value	r ² value
LOI	Stability	+	0.3877	0.0342	0.1503
	Infiltration	+	0.5159	0.0035	0.2662
	Nutrient cycling	+	0.5535	0.0015	0.3064
	Total SSA functionality	+	0.5408	0.0020	0.2924
Mean patch width (cm)	Stability	+	0.2601	0.1652	0.0676
	Infiltration	+	0.3892	0.0335	0.1515
	Nutrient cycling	+	0.3366	0.0690	0.1133
	Total SSA functionality	+	0.3716	0.0432	0.1381
Total patch area (m ²)	Stability	+	0.3043	0.1021	0.0926
	Infiltration	+	0.2099	0.2656	0.0441
	Nutrient cycling	+	0.1743	0.3569	0.0304
	Total SSA functionality	+	0.2591	0.1668	0.0671
Mean interpatch length (m)	Stability	-	-0.3704	0.0439	0.1372
	Infiltration	-	-0.2071	0.2722	0.0429
	Nutrient cycling	-	-0.2022	0.2838	0.0409
	Total SSA functionality	-	-0.2985	0.1092	0.0891
Shortest interpatch (m)	Stability	-	-0.2410	0.1995	0.0581
	Infiltration	-	-0.1089	0.5666	0.0119
	Nutrient cycling	-	-0.0555	0.7708	0.0031
	Total SSA functionality	-	-0.1409	0.4577	0.0198
Longest interpatch (m)	Stability	-	-0.1242	0.5130	0.0154
	Infiltration	-	-0.0474	0.8034	0.0022
	Nutrient cycling	-	-0.0799	0.6746	0.0064
	Total SSA functionality	-	-0.1078	0.5707	0.0116

APPENDIX K: Tukey's HSD test (ANOVA) results for landscape function

Table K.1: Tukey's HSD for unequal N (ANOVA) to indicate significant differences between mean physical landscape attributes for grassland fragments in rural/peri-urban and urban surroundings. There were no significant differences at $p < 0.05$.

Landscape organisation index (LOI)	Rural / peri-urban M=83.900	Urban M=84.879
	Rural / peri-urban	0.877958
	Urban	0.877958
Mean patch width (cm)	Rural / peri-urban M=122.72	Urban M=166.24
	Rural / peri-urban	0.321149
	Urban	0.321149
Mean total patch area (m ²)	Rural / peri-urban M=55.382	Urban M=57.832
	Rural / peri-urban	0.879578
	Urban	0.879578
Mean interpatch length (m)	Rural / peri-urban M=.32182	Urban M=.32737
	Rural / peri-urban	0.935889
	Urban	0.935889
Shortest interpatch (m)	Rural / peri-urban M=.11273	Urban M=.11000
	Rural / peri-urban	0.904404
	Urban	0.904404
Longest interpatch (m)	Rural / peri-urban M=.87636	Urban M=.82105
	Rural / peri-urban	0.825452
	Urban	0.825452

Table K.2: Tukey's HSD for unequal N (ANOVA) to indicate significant differences between mean SSA functionality indices for rural/peri-urban and urban surroundings. There were no significant differences at $p < 0.05$.

Stability SSA index	Rural / peri-urban M=57.985	Urban M=58.935
	Rural / peri-urban	0.773001
	Urban	0.773001
Infiltration SSA index	Rural / peri-urban M=35.345	Urban M=29.521
	Rural / peri-urban	0.074442
	Urban	0.074442
Nutrient cycling SSA index	Rural / peri-urban M=30.902	Urban M=25.563
	Rural / peri-urban	0.169138
	Urban	0.169138
Total SSA functionality	Rural / peri-urban M=126.45	Urban M=117.72
	Rural / peri-urban	0.346035
	Urban	0.346035

APPENDIX L: Multiple regression analysis results for plant diversity- landscape function

Table L.1: Correlation matrix and multiple regression results for physical landscape attributes and the selected five urbanisation measures (representing pattern/process associated with urbanisation). Significant correlations (at $p < 0.05$) are indicated in bold text and moderate linear relationships ($0.1 \leq r^2 < 0.25$).

	Corr. Direction	r value	p value	r ² value
Mean species richness				
Stability	+	0.024040	0.899655	0.000578
Infiltration	-	-0.047824	0.801847	0.002287
Nutrient Cycling	-	-0.035629	0.851728	0.001269
Total SSA functionality	-	-0.027960	0.883398	0.000782
LOI	-	-0.359666	0.050920	0.129360
Mean patch width (cm)	-	-0.336441	0.069084	0.113192
Interpatch length (m)	+	0.268768	0.150964	0.072236
Total patch area (m ²)	-	-0.248391	0.185657	0.061698
Longest interpatch (m)	+	0.225419	0.231034	0.050814
Shortest interpatch (m)	-	-0.073538	0.699354	0.005408
Shannon's diversity index (H')				
Stability	-	-0.021946	0.908357	0.000482
Infiltration	-	-0.011653	0.951265	0.000136
Nutrient Cycling	-	-0.020362	0.914950	0.000415
Total SSA functionality	-	-0.032325	0.865347	0.001045
LOI	-	-0.437542	0.015606	0.191443
Mean patch width (cm)	-	-0.229960	0.221522	0.052882
Interpatch length (m)	+	0.280600	0.133105	0.078737
Total patch area (m ²)	-	-0.122230	0.519929	0.014940
Longest interpatch (m)	+	0.181944	0.335914	0.033104
Shortest interpatch (m)	-	-0.079223	0.677307	0.006276
Pielou's evenness index (E)				
Stability	-	-0.024601	0.897325	0.000605
Infiltration	-	-0.055919	0.769144	0.003127
Nutrient Cycling	-	-0.051820	0.785659	0.002685
Total SSA functionality	-	-0.061325	0.747513	0.003761
LOI	-	-0.492788	0.005663	0.242840
Mean patch width (cm)	-	-0.142425	0.452783	0.020285
Interpatch length (m)	+	0.356333	0.053265	0.126973
Total patch area (m ²)	-	-0.067735	0.722106	0.004588
Longest interpatch (m)	+	0.175913	0.352448	0.030945
Shortest interpatch (m)	-	-0.020582	0.914032	0.000424
Functional richness (FRic)				
Stability	-	-0.033287	0.861379	0.001108
Infiltration	+	0.106490	0.575424	0.011340
Nutrient Cycling	+	0.096540	0.611812	0.009320
Total SSA functionality	+	0.045238	0.812367	0.002047
LOI	-	-0.148061	0.434907	0.021922
Mean patch width (cm)	-	-0.202678	0.282760	0.041078
Interpatch length (m)	+	0.137580	0.468454	0.018928
Total patch area (m ²)	-	-0.134388	0.478932	0.018060
Longest interpatch (m)	+	0.188984	0.317225	0.035715
Shortest interpatch (m)	-	-0.185338	0.326824	0.034350
Functional evenness (FEve)				
Stability	+	0.056846	0.765420	0.003232
Infiltration	-	-0.178345	0.345722	0.031807

Table L.1 continue

	Nutrient Cycling	-	-0.077077	0.685600	0.005941
	Total SSA functionality	-	-0.038668	0.839235	0.001495
	LOI	+	0.213643	0.256963	0.045643
	Mean patch width (cm)	-	-0.002068	0.991347	0.000004
	Interpatch length (m)	-	-0.067057	0.724781	0.004497
	Total patch area (m ²)	-	-0.092349	0.627418	0.008528
	Longest interpatch (m)	-	-0.070342	0.711853	0.004948
	Shortest interpatch (m)	+	0.078586	0.679765	0.006176
	Functional divergence (FDiv)				
	Stability	-	-0.025100	0.895256	0.000630
	Infiltration	+	0.214357	0.255340	0.045949
	Nutrient Cycling	+	0.178053	0.346527	0.031703
	Total SSA functionality	+	0.138147	0.466607	0.019085
	LOI	+	0.274247	0.142493	0.075211
	Mean patch width (cm)	+	0.042740	0.822562	0.001827
	Interpatch length (m)	-	-0.131264	0.489304	0.017230
	Total patch area (m ²)	+	0.035899	0.850617	0.001289
	Longest interpatch (m)	-	-0.202459	0.283293	0.040989
	Shortest interpatch (m)	+	0.147984	0.435148	0.021899
	Functional dispersion (FDis)				
	Stability	+	0.054105	0.776440	0.002927
	Infiltration	-	-0.004119	0.982763	0.000017
	Nutrient Cycling	-	-0.076134	0.689255	0.005796
	Total SSA functionality	-	-0.037466	0.844172	0.001404
	LOI	-	-0.232869	0.215571	0.054228
	Mean patch width (cm)	+	0.390185	0.033037	0.152244
	Interpatch length (m)	+	0.051355	0.787539	0.002637
	Total patch area (m ²)	+	0.372608	0.042578	0.138837
	Longest interpatch (m)	-	-0.018548	0.922500	0.000344
	Shortest interpatch (m)	-	-0.179624	0.342217	0.032265
	Functional specialisation (FSpe)				
	Stability	-	-0.139554	0.462036	0.019475
	Infiltration	+	0.239914	0.201612	0.057559
	Nutrient Cycling	+	0.152382	0.421469	0.023220
	Total SSA functionality	+	0.019853	0.917066	0.000394
	LOI	+	0.002333	0.990236	0.000005
	Mean patch width (cm)	+	0.143930	0.447971	0.020716
	Interpatch length (m)	+	0.097990	0.606449	0.009602
	Total patch area (m ²)	+	0.129574	0.494963	0.016790
	Longest interpatch (m)	+	0.047226	0.804278	0.002230
	Shortest interpatch (m)	-	-0.099658	0.600304	0.009932
	%Native				
	Stability	+	0.029568	0.876739	0.000874
	Infiltration	-	-0.062684	0.742104	0.003929
	Nutrient Cycling	-	-0.062168	0.744155	0.003865
	Total SSA functionality	-	-0.002601	0.989117	0.000007
	LOI	-	-0.173720	0.358578	0.030179
	Mean patch width (cm)	-	-0.333418	0.071777	0.111168
	Interpatch length (m)	-	-0.047267	0.804109	0.002234
	Total patch area (m ²)	-	-0.182552	0.334275	0.033325
	Longest interpatch (m)	+	0.094884	0.617960	0.009003
	Shortest interpatch (m)	-	-0.040240	0.832789	0.001619
	%Exotic				
	Stability	-	-0.029568	0.876739	0.000874
	Infiltration	+	0.062684	0.742104	0.003929
	Nutrient Cycling	+	0.062168	0.744155	0.003865
	Total SSA functionality	+	0.002601	0.989117	0.000007
	LOI	+	0.173720	0.358578	0.030179
	Mean patch width (cm)	+	0.333418	0.071777	0.111168

Table L.1 continue

%Forb	Interpatch length (m)	+	0.047267	0.804109	0.002234
	Total patch area (m ²)	+	0.182552	0.334275	0.033325
	Longest interpatch (m)	-	-0.094884	0.617960	0.009003
	Shortest interpatch (m)	+	0.040240	0.832789	0.001619
	Stability	-	-0.037131	0.845549	0.001379
%Graminoids	Infiltration	+	0.298398	0.109227	0.089041
	Nutrient Cycling	+	0.313998	0.091066	0.098595
	Total SSA functionality	+	0.181439	0.337280	0.032920
	LOI	+	0.246530	0.189081	0.060777
	Mean patch width (cm)	-	-0.029149	0.878473	0.000850
	Interpatch length (m)	+	0.118972	0.531197	0.014154
	Total patch area (m ²)	-	-0.004939	0.979334	0.000024
	Longest interpatch (m)	+	0.039123	0.837369	0.001531
	Shortest interpatch (m)	+	0.307125	0.098761	0.094326
	Stability	+	0.018133	0.924231	0.000329
%Shrub	Infiltration	+	0.016618	0.930547	0.000276
	Nutrient Cycling	+	0.062522	0.742749	0.003909
	Total SSA functionality	+	0.044121	0.816924	0.001947
	LOI	+	0.107535	0.571658	0.011564
	Mean patch width (cm)	+	0.121335	0.523013	0.014722
	Interpatch length (m)	+	0.033997	0.858448	0.001156
	Total patch area (m ²)	+	0.052178	0.784211	0.002723
	Longest interpatch (m)	-	-0.212609	0.259328	0.045203
	Shortest interpatch (m)	+	0.016037	0.932968	0.000257
	Stability	+	0.050677	0.790281	0.002568
%Tree	Infiltration	+	0.061633	0.746286	0.003799
	Nutrient Cycling	-	-0.043826	0.818127	0.001921
	Total SSA functionality	+	0.083073	0.662523	0.006901
	LOI	-	-0.110592	0.560708	0.012231
	Mean patch width (cm)	-	-0.144853	0.445032	0.020983
	Interpatch length (m)	-	-0.169600	0.370263	0.028764
	Total patch area (m ²)	-	-0.067570	0.722758	0.004566
	Longest interpatch (m)	+	0.101834	0.592330	0.010370
	Shortest interpatch (m)	-	-0.333658	0.071561	0.111328
	Stability	-	-0.078387	0.680533	0.006145
%Succulent	Infiltration	-	-0.345448	0.061522	0.119335
	Nutrient Cycling	-	-0.363547	0.048293	0.132166
	Total SSA functionality	-	-0.309334	0.096236	0.095688
	LOI	-	-0.085094	0.654811	0.007241
	Mean patch width (cm)	+	0.173117	0.360274	0.029969
	Interpatch length (m)	-	-0.068342	0.719715	0.004671
	Total patch area (m ²)	+	0.181980	0.335819	0.033117
	Longest interpatch (m)	-	-0.011403	0.952311	0.000130
	Shortest interpatch (m)	-	-0.029578	0.876700	0.000875
	Stability	+	0.041745	0.826629	0.001743
%Succulent	Infiltration	-	-0.122486	0.519050	0.015003
	Nutrient Cycling	-	-0.136437	0.472194	0.018615
	Total SSA functionality	-	-0.025579	0.893266	0.000654
	LOI	-	-0.401955	0.027675	0.161568
	Mean patch width (cm)	-	-0.138534	0.465345	0.019192
	Interpatch length (m)	+	0.012992	0.945674	0.000169
	Total patch area (m ²)	-	-0.177175	0.348949	0.031391
	Longest interpatch (m)	+	0.069170	0.716459	0.004784
	Shortest interpatch (m)	-	-0.158014	0.404302	0.024969
	Stability	+	0.041745	0.826629	0.001743

Table L.1 continue

%Vines	Stability	+	0.136407	0.472293	0.018607
	Infiltration	-	-0.236879	0.207546	0.056112
	Nutrient Cycling	-	-0.173470	0.359279	0.030092
	Total SSA functionality	-	-0.125230	0.509657	0.015683
	LOI	-	-0.247893	0.186569	0.061451
	Mean patch width (cm)	-	-0.300690	0.106401	0.090414
	Interpatch length (m)	-	-0.061745	0.745838	0.003812
	Total patch area (m ²)	-	-0.206402	0.273818	0.042602
	Longest interpatch (m)	+	0.246850	0.188488	0.060935
	Shortest interpatch (m)	-	-0.194693	0.302553	0.037905
%Parasite	Stability	-	-0.168081	0.374627	0.028251
	Infiltration	-	-0.220733	0.241134	0.048723
	Nutrient Cycling	-	-0.296946	0.111045	0.088177
	Total SSA functionality	-	-0.266903	0.153930	0.071237
	LOI	-	-0.183204	0.332521	0.033564
	Mean patch width (cm)	+	0.368564	0.045058	0.135839
	Interpatch length (m)	-	-0.032989	0.862608	0.001088
	Total patch area (m ²)	+	0.164955	0.383702	0.027210
	Longest interpatch (m)	-	-0.082488	0.664764	0.006804
	Shortest interpatch (m)	-	-0.089906	0.636592	0.008083
%Phanerophytes	Stability	-	-0.007053	0.970494	0.000050
	Infiltration	-	-0.292806	0.116355	0.085735
	Nutrient Cycling	-	-0.335842	0.069611	0.112790
	Total SSA functionality	-	-0.231966	0.217407	0.053808
	LOI	-	-0.069307	0.715918	0.004804
	Mean patch width (cm)	+	0.140717	0.458274	0.019801
	Interpatch length (m)	-	-0.166328	0.379700	0.027665
	Total patch area (m ²)	+	0.180196	0.340658	0.032471
	Longest interpatch (m)	-	-0.012798	0.946486	0.000164
	Shortest interpatch (m)	-	-0.173585	0.358957	0.030132
%Hemicryptophyte	Stability	+	0.485051	0.006593	0.235274
	Infiltration	+	0.195886	0.299542	0.038371
	Nutrient Cycling	+	0.279643	0.134490	0.078200
	Total SSA functionality	+	0.400622	0.028244	0.160498
	LOI	-	-0.020637	0.913802	0.000426
	Mean patch width (cm)	-	-0.271142	0.147251	0.073518
	Interpatch length (m)	+	0.101603	0.593176	0.010323
	Total patch area (m ²)	-	-0.222404	0.237499	0.049464
	Longest interpatch (m)	+	0.033862	0.859006	0.001147
	Shortest interpatch (m)	+	0.117077	0.537805	0.013707
%Chamaephyte	Stability	-	-0.175804	0.352751	0.030907
	Infiltration	-	-0.400629	0.028241	0.160504
	Nutrient Cycling	-	-0.394470	0.030995	0.155606
	Total SSA functionality	-	-0.336699	0.068858	0.113366
	LOI	-	-0.244002	0.193803	0.059537
	Mean patch width (cm)	-	-0.179665	0.342106	0.032280
	Interpatch length (m)	-	-0.020880	0.912794	0.000436
	Total patch area (m ²)	-	-0.126308	0.505990	0.015954
	Longest interpatch (m)	+	0.011343	0.952564	0.000129
	Shortest interpatch (m)	+	0.001835	0.992320	0.000003
	%Therophyte				
	Stability	-	-0.175667	0.353130	0.030859
	Infiltration	+	0.208547	0.268753	0.043492
	Nutrient Cycling	+	0.186464	0.323839	0.034769

Table L.1 continue

%Geophyte	Total SSA functionality	+	0.030337	0.873560	0.000920
	LOI	+	0.191677	0.310250	0.036740
	Mean patch width (cm)	+	0.268329	0.151658	0.072001
	Interpatch length (m)	+	0.103996	0.584453	0.010815
	Total patch area (m ²)	+	0.121291	0.523164	0.014712
	Longest interpatch (m)	-	-0.042391	0.823988	0.001797
	Shortest interpatch (m)	+	0.092138	0.628208	0.008489
%Perennial	Stability	+	0.011627	0.951375	0.000135
	Infiltration	+	0.222321	0.237680	0.049426
	Nutrient Cycling	+	0.169587	0.370299	0.028760
	Total SSA functionality	+	0.158672	0.402322	0.025177
	LOI	+	0.091999	0.628730	0.008464
	Mean patch width (cm)	-	-0.027713	0.884421	0.000768
	Interpatch length (m)	-	-0.240032	0.201383	0.057615
	Total patch area (m ²)	+	0.132359	0.485658	0.017519
	Longest interpatch (m)	+	0.044975	0.813439	0.002023
	Shortest interpatch (m)	-	-0.273849	0.143095	0.074993
%Annual	Stability	+	0.179883	0.341511	0.032358
	Infiltration	-	-0.169141	0.371578	0.028609
	Nutrient Cycling	-	-0.135193	0.476281	0.018277
	Total SSA functionality	+	0.008338	0.965120	0.000070
	LOI	-	-0.111787	0.556457	0.012496
	Mean patch width (cm)	-	-0.319627	0.085110	0.102161
	Interpatch length (m)	-	-0.130387	0.492237	0.017001
	Total patch area (m ²)	-	-0.132325	0.485770	0.017510
	Longest interpatch (m)	+	0.033998	0.858447	0.001156
	Shortest interpatch (m)	-	-0.111651	0.556939	0.012466
%Non-clonal	Stability	-	-0.179883	0.341511	0.032358
	Infiltration	+	0.169141	0.371578	0.028609
	Nutrient Cycling	+	0.135193	0.476281	0.018277
	Total SSA functionality	-	-0.008338	0.965120	0.000070
	LOI	+	0.111787	0.556457	0.012496
	Mean patch width (cm)	+	0.319627	0.085110	0.102161
	Interpatch length (m)	+	0.130387	0.492237	0.017001
	Total patch area (m ²)	+	0.132325	0.485770	0.017510
	Longest interpatch (m)	-	-0.033998	0.858447	0.001156
	Shortest interpatch (m)	+	0.111651	0.556939	0.012466
%Clonal belowground	Stability	-	-0.282850	0.129893	0.080004
	Infiltration	-	-0.262424	0.161222	0.068866
	Nutrient Cycling	-	-0.246364	0.189388	0.060695
	Total SSA functionality	-	-0.309079	0.096525	0.095530
	LOI	-	-0.074425	0.695897	0.005539
	Mean patch width (cm)	+	0.089459	0.638277	0.008003
	Interpatch length (m)	+	0.209608	0.266271	0.043935
	Total patch area (m ²)	-	-0.071334	0.707966	0.005089
	Longest interpatch (m)	-	-0.195255	0.301133	0.038124
	Shortest interpatch (m)	+	0.275995	0.139862	0.076173
%Clonal belowground	Stability	+	0.307367	0.098482	0.094474
	Infiltration	+	0.283131	0.129495	0.080163
	Nutrient Cycling	+	0.281494	0.131822	0.079239
	Total SSA functionality	+	0.326540	0.078209	0.106628
	LOI	+	0.081093	0.670113	0.006576
	Mean patch width (cm)	-	-0.205568	0.275806	0.042258
%Clonal belowground	Interpatch length (m)	-	-0.219865	0.243035	0.048341

Table L.1 continue

Total patch area (m ²)	+	0.008638	0.963864	0.000075
Longest interpatch (m)	+	0.150701	0.426670	0.022711
Shortest interpatch (m)	-	-0.246697	0.188772	0.060859
%Clonal aboveground				
Stability	-	-0.1499447	0.429020	0.022483
Infiltration	-	-0.1604963	0.396865	0.025759
Nutrient Cycling	-	-0.1808237	0.338950	0.032697
Total SSA functionality	-	-0.1525015	0.421100	0.023257
LOI	-	-0.0703474	0.711834	0.004949
Mean patch width (cm)	+	0.3085861	0.097086	0.095225
Interpatch length (m)	+	0.1329844	0.483580	0.017685
Total patch area (m ²)	+	0.1463214	0.440382	0.021410
Longest interpatch (m)	+	0.0538309	0.777544	0.002898
Shortest interpatch (m)	+	0.0548945	0.773262	0.003013
%Clonal above- and belowground				
Stability	-	-0.0865367	0.649328	0.007489
Infiltration	+	0.0378443	0.842619	0.001432
Nutrient Cycling	-	-0.0029715	0.987566	0.000009
Total SSA functionality	-	-0.0421359	0.825031	0.001775
LOI	+	0.1115452	0.557315	0.012442
Mean patch width (cm)	+	0.0564693	0.766933	0.003189
Interpatch length (m)	-	-0.1190199	0.531032	0.014166
Total patch area (m ²)	-	-0.082453	0.664896	0.006799
Longest interpatch (m)	-	-0.0804256	0.672677	0.006468
Shortest interpatch (m)	-	-0.0929141	0.625305	0.008633
%No spines				
Stability	+	0.218259	0.246582	0.047637
Infiltration	-	-0.005681	0.976232	0.000032
Nutrient Cycling	-	-0.031475	0.868855	0.000991
Total SSA functionality	+	0.050691	0.790226	0.002570
LOI	-	-0.133383	0.482258	0.017791
Mean patch width (cm)	+	0.267906	0.152331	0.071773
Interpatch length (m)	+	0.160883	0.395714	0.025883
Total patch area (m ²)	+	0.210291	0.264679	0.044222
Longest interpatch (m)	+	0.053190	0.780130	0.002829
Shortest interpatch (m)	+	0.004013	0.983210	0.000016
%Spines				
Stability	-	-0.218259	0.246582	0.047637
Infiltration	+	0.005681	0.976232	0.000032
Nutrient Cycling	+	0.031475	0.868855	0.000991
Total SSA functionality	-	-0.050691	0.790226	0.002570
LOI	+	0.133383	0.482258	0.017791
Mean patch width (cm)	-	-0.267906	0.152331	0.071773
Interpatch length (m)	-	-0.160883	0.395714	0.025883
Total patch area (m ²)	-	-0.210291	0.264679	0.044222
Longest interpatch (m)	-	-0.053190	0.780130	0.002829
Shortest interpatch (m)	-	-0.004013	0.983210	0.000016
%Deciduous				
Stability	+	0.399995	0.028515	0.159996
Infiltration	+	0.289471	0.120767	0.083794
Nutrient Cycling	+	0.373328	0.042149	0.139374
Total SSA functionality	+	0.400046	0.028493	0.160037
LOI	+	0.251190	0.180588	0.063096
Mean patch width (cm)	+	0.008296	0.965297	0.000069
Interpatch length (m)	-	-0.035151	0.853695	0.001236
Total patch area (m ²)	-	-0.031027	0.870709	0.000963
Longest interpatch (m)	-	-0.143664	0.448819	0.020639
Shortest interpatch (m)	-	-0.009853	0.958788	0.000097

Table L.1 continue

%Evergreen					
Stability	-	-0.242224	0.197174	0.058672	
Infiltration	-	-0.037620	0.843540	0.001415	
Nutrient Cycling	-	-0.102517	0.589837	0.010510	
Total SSA functionality	-	-0.146961	0.438366	0.021597	
LOI	+	0.083428	0.661167	0.006960	
Mean patch width (cm)	-	-0.006674	0.972076	0.000045	
Interpatch length (m)	-	-0.208579	0.268679	0.043505	
Total patch area (m ²)	+	0.146265	0.440559	0.021394	
Longest interpatch (m)	-	-0.041464	0.827780	0.001719	
Shortest interpatch (m)	-	-0.013735	0.942575	0.000189	
%Semi-evergreen					
Stability	-	-0.303610	0.102882	0.092179	
Infiltration	-	-0.385869	0.035202	0.148895	
Nutrient Cycling	-	-0.432401	0.017014	0.186971	
Total SSA functionality	-	-0.418620	0.021316	0.175243	
LOI	-	-0.474494	0.008067	0.225144	
Mean patch width (cm)	-	-0.004396	0.981608	0.000019	
Interpatch length (m)	+	0.303689	0.102787	0.092227	
Total patch area (m ²)	-	-0.130224	0.492784	0.016958	
Longest interpatch (m)	+	0.263222	0.159905	0.069286	
Shortest interpatch (m)	+	0.031121	0.870319	0.000969	
%Unassisted dispersal					
Stability	-	-0.258871	0.167179	0.067014	
Infiltration	-	-0.060250	0.751799	0.003630	
Nutrient Cycling	-	-0.189104	0.316913	0.035760	
Total SSA functionality	-	-0.227736	0.226148	0.051864	
LOI	-	-0.202275	0.283739	0.040915	
Mean patch width (cm)	-	-0.201405	0.285860	0.040564	
Interpatch length (m)	-	-0.012795	0.946497	0.000164	
Total patch area (m ²)	-	-0.164613	0.384703	0.027097	
Longest interpatch (m)	+	0.163219	0.388797	0.026640	
Shortest interpatch (m)	-	-0.332287	0.072806	0.110414	
%Wind					
Stability	+	0.218903	0.245156	0.047918	
Infiltration	+	0.158289	0.403474	0.025056	
Nutrient Cycling	+	0.270059	0.148937	0.072932	
Total SSA functionality	+	0.251054	0.180832	0.063028	
LOI	+	0.226391	0.228976	0.051253	
Mean patch width (cm)	+	0.236350	0.208593	0.055861	
Interpatch length (m)	+	0.054443	0.775081	0.002964	
Total patch area (m ²)	+	0.188509	0.318466	0.035536	
Longest interpatch (m)	-	-0.148838	0.432473	0.022153	
Shortest interpatch (m)	+	0.402238	0.027556	0.161795	
%Internal animal dispersal					
Stability	-	-0.044515	0.815316	0.001982	
Infiltration	-	-0.136902	0.470669	0.018742	
Nutrient Cycling	-	-0.201741	0.285040	0.040699	
Total SSA functionality	-	-0.122585	0.518709	0.015027	
LOI	-	-0.053778	0.777758	0.002892	
Mean patch width (cm)	+	0.092882	0.625425	0.008627	
Interpatch length (m)	-	-0.165872	0.381029	0.027513	
Total patch area (m ²)	+	0.107462	0.571920	0.011548	
Longest interpatch (m)	+	0.012760	0.946642	0.000163	
Shortest interpatch (m)	-	-0.169104	0.371683	0.028596	
%External animal dispersal					
Stability	-	-0.108076	0.569713	0.011680	
Infiltration	-	-0.118495	0.532859	0.014041	
Nutrient Cycling	-	-0.109418	0.564902	0.011972	

Table L.1 continue

Total SSA functionality	-	-0.097476	0.608348	0.009502
LOI	-	-0.279053	0.135349	0.077870
Mean patch width (cm)	-	-0.463150	0.009953	0.214508
Interpatch length (m)	+	0.251950	0.179229	0.063479
Total patch area (m ²)	-	-0.349406	0.058411	0.122085
Longest interpatch (m)	+	0.158056	0.404177	0.024982
Shortest interpatch (m)	-	-0.040692	0.830938	0.001656
%Unassisted/internal animal dispersal				
Stability	+	0.146431	0.440036	0.021442
Infiltration	-	-0.093279	0.623941	0.008701
Nutrient Cycling	-	-0.041438	0.827884	0.001717
Total SSA functionality	+	0.017002	0.928945	0.000289
LOI	+	0.172615	0.361689	0.029796
Mean patch width (cm)	+	0.100265	0.598077	0.010053
Interpatch length (m)	-	-0.255834	0.172393	0.065451
Total patch area (m ²)	-	-0.001453	0.993921	0.000002
Longest interpatch (m)	-	-0.142437	0.452742	0.020288
Shortest interpatch (m)	-	-0.317441	0.087387	0.100768
%Abiotic pollination				
Stability	+	0.270860	0.147688	0.073365
Infiltration	+	0.148042	0.434965	0.021917
Nutrient Cycling	+	0.153697	0.417424	0.023623
Total SSA functionality	+	0.258039	0.168596	0.066584
LOI	-	-0.040403	0.832125	0.001632
Mean patch width (cm)	-	-0.036955	0.846273	0.001366
Interpatch length (m)	+	0.057440	0.763039	0.003299
Total patch area (m ²)	-	-0.015186	0.936518	0.000231
Longest interpatch (m)	-	-0.186286	0.324311	0.034702
Shortest interpatch (m)	-	-0.081392	0.668962	0.006625
%Biotic pollination				
Stability	-	-0.270860	0.147688	0.073365
Infiltration	-	-0.148042	0.434965	0.021917
Nutrient Cycling	-	-0.153697	0.417424	0.023623
Total SSA functionality	-	-0.258039	0.168596	0.066584
LOI	+	0.040403	0.832125	0.001632
Mean patch width (cm)	+	0.036955	0.846273	0.001366
Interpatch length (m)	-	-0.057440	0.763039	0.003299
Total patch area (m ²)	+	0.015186	0.936518	0.000231
Longest interpatch (m)	+	0.186286	0.324311	0.034702
Shortest interpatch (m)	+	0.081392	0.668962	0.006625