Supplementary materials



Block 1

B 11	B 6	B 9	B 8	B 2	B 10	B 1	B 3	B 4	B 7	B 5
A 1	A 8	A 11	A 2	A 6	A 3	A 9	A 4	A 7	A 5	A 10
C 8	C 2	C 11	C 9	C 6	C 4	C 10	C 3	C 5	C 1	C 7
D 1	D 8	D 10	D 2	D 4	D 11	D 7	D 5	D 3	D 6	D 9

Block 2

D 2	D 7	D 6	D 4	D 10	D 5	D 11	D 8	D 1	D 9	D 3
A 9	A 8	A 2	A 11	A 6	A 7	A 5	A 4	A 3	A 10	A 1
C 5	C 4	C 10	C 2	C 11	C 8	C 6	C 1	C 9	C 3	C 7
B 8	B 5	B 11	B 7	B 10	B 6	B 3	B 1	B 2	B 4	B 9

Block 3

B 4	B 5	B 6	B 9	B 2	B 10	B 8	B 11	B 7	B 3	B 1
C 1	C 2	C 6	C 3	C 7	C 9	C 4	C 10	C 11	C 5	C 8
D 4	D 1	D 5	D 7	D 2	D 3	D 11	D 10	D 6	D 9	D 8
A 2	A 9	A 1	A 7	A 3	A 10	A 8	A 5	A 6	A 4	A 11

Figure S1: Experimental design and sampled treatment plots at Ukulinga Research Farm, Pietermaritzburg, South Africa. Treatments indicated by the numbers: A1= Control; A2= Annual Burn in Winter; A3= Annual Burn after the first spring rain; A4= Biennial Burn in Winter, A5= Biennial Burn after the first Spring rains; A7= Triennial Burn in Winter, A8= Triennial Burn after the first spring rains; A10= Annual Mow in Winter, A11= Annual Mown after the first spring rains. Sampled plots are highlighted in grey.

Table S1: Checklist of ant subfamilies and species sampled in burning/mowing and control treatment plots AB, annual burn; AM, annual mow; BB, biennial burn; TB, triennial burn; CON, Control plots) and season (August, Spring, and Control) at Ukulinga Research Farm, Pietermaritzburg, South Africa

Subfamilies and Species	FG	AB	AM	BB	Cont	TB
Dolichoderinae		**15**	**7**	**7**	**3**	**14**
Technomyrmex cf. pallipes	OPP	15	7	7	3	14
Dorylinae		**5**	**7**	**15**	**1**	**3**
Aenictus UKZN_01	CS	3	6	14	0	3
Dorylus UKZN_01	CS	1	0	1	1	0
Parasyscia ?UKZN_04	CS	1	1	0	0	0
Formicinae		**240**	**220**	**117**	**64**	**168**
Acropyga UKZN_01	CS	109	83	76	1	36
Acropyga UKZN_02	CS	1	0	0	0	0
Anoplolepis custodiens	TCS	62	93	1	0	43
Camponotus ?UKZN_06 (*niveosetosus* gp.)	SC	0	1	0	0	1
Camponotus UKZN_02 (*cintellus* gp.)	SC	4	0	2	18	11
Camponotus UKZN_04	SC	1	0	0	0	0
Camponotus UKZN_05 (*maculatus* gp.)	SC	3	4	0	10	3
Lepisiota ?*capensis*	CS	37	26	28	22	56
Lepisiota ?*crinita*	CS	19	12	8	2	11
Lepisiota ?UKZN_03 (*capensis* gp.)	CS	4	0	0	0	0
Lepisiota ?UKZN_08 (*spinosior* gp.)	CS	0	0	0	1	0
Lepisiota UKZN_05 (*spinosior* gp.)	CS	0	0	0	0	3
Lepisiota UKZN_11	CS	0	0	1	0	0
Plagiolepis UKZN_01	CS	0	0	0	7	4
Tapinolepis ?UKZN_05	TCS	0	0	1	3	0
Tapinolepis UKZN_04	TCS	0	1	0	0	0
Myrmicinae		**3305**	**2296**	**2527**	**2366**	**2936**
Cardiocondyla ?*emeryi*	OPP	1	0	0	0	0
Carebara UKZN_02	CS	0	0	1	1	2
Crematogaster ?*rufigena*	GM	0	0	0	4	3
Crematogaster rectinota	GM	494	196	388	0	190
Diplomorium UKZN_02	GM	15	6	5	2	0
Monomorium ?*junodi*	GM	32	1	0	0	0
Monomorium ?UKZN_02 (*salamonis* gp.)	GM	37	0	0	0	0
Monomorium UKZN_01	GM	44	17	33	27	59
Monomorium UKZN_03	GM	68	12	1	0	27
Monomorium UKZN_08	GM	48	37	27	8	29
Myrmicaria natalensis	GM	28	6	1	0	30
Nylanderia natalensis	OPP	16	1	12	3	12
Pheidole UKZN_02 (*megacephala* gp.)	GM	2059	1826	1854	2091	2218
Pheidole UKZN_03	GM	290	40	39	12	33
Solenopsis UKZN_01	CS	27	22	24	20	16
Solenopsis UKZN_02	CS	0	0	2	1	2

Solenopsis UKZN_03	CS	3	14	7	2	2
Solenopsis UKZN_05	CS	0	1	3	0	1
Solenopsis UKZN_06	CS	0	0	4	0	1
Strumigenys ?*faurei*	CS	1	0	2	0	4
Strumigenys ?UKZN_01	CS	1	8	5	0	3
Strumigenys ?UKZN_02	CS	0	1	0	0	5
Tetramorium ?UKZN_03 (*setigerum* gp.)	GM	47	33	47	12	87
Tetramorium ?UKZN_07 (*setigerum* gp.)	GM	3	2	12	0	2
Tetramorium?UKZN_08 (*similimum* gp.)	CS	2	2	2	4	8
Tetramorium ?UKZN_09 (*similimum* gp.)	CS	5	23	7	15	51
Tetramorium ?UKZN_11 (*simillimum* gp.)	CS	6	9	9	9	20
Tetramorium ?UKZN_15 (*sericeiventre* gp.)	GM	52	1	5	91	96
Tetramorium?UKZN_18 (*squaminode* gp.)	GM	5	6	9	6	10
Tetramorium ?UKZN_19 (*squaminode* gp.)	GM	0	0	0	9	0
Tetramorium ?UKZN_21 (*squaminode* gp.)	GM	7	10	12	6	20
Tetramorium notiale	GM	5	7	4	12	1
Tetramorium nr erectum	GM	0	2	5	4	2
Tetramorium nr grassii	GM	1	1	4	26	1
Tetramorium thoth	GM	7	11	3	1	1
Tetramorium UKZN_42	GM	1	1	0	0	0
Ponerinae		**29**	**31**	**58**	**37**	**26**
Anochetus ?UKZN_02	SP	4	0	2	0	8
Anochetus faurei	SP	0	4	0	0	0
Bothroponera ?UKZN_01	SP	1	0	0	0	0
Hagensia havilandi	SP	1	1	1	0	3
Hypoponera UKZN_04	CS	0	1	2	4	0
Leptogenys intermedia	SP	4	5	24	22	5
Leptogenys UKZN_03	SP	0	4	3	3	2
Mesoponera caffraria	SP	10	14	24	8	8
Mesoponera nr sharpi	SP	5	0	0	0	0
Plectroctena mandibularis	SP	4	2	2	0	0
Proceratiinae		1	2	1	1	0
Discothyrea oculata	CS	1	2	1	1	0
Grand Total		**3595**	**2563**	**2725**	**2472**	**3147**

Note. The functional groups (FG) are CS: Cryptic Species; GM: Generalised Myrmicinae; OPP: Opportunists; SC: Subordinate Camponotini, SP: Specialised Predator; TCS: Tropical Climate Specialist.

Table S2: Records of ant species across treatment type (AB, annual burn; AM, annual mow; BB, biennial burn; TB, triennial burn; CON, Control plots) and season (August, Spring, and Control) of treatment Ukulinga research farm, Pietermaritzburg, South Africa.

Season of treatments			**Winter**		**Control**			**Spring**				**Total**		
Treatments	AB	AM	BB	TB	CON	AB	AM	BB	TB	AB	AM	BB	CON	TB
No. of plots	3	3	3	3	3	3	3	3	3	6	6	6	6	3
Acropyga UKZN_01	16	18	28	18	1	24	17	14	13	40	35	42	1	31
Acropyga UKZN_02						1				1				
Aenictus UKZN_01	2		1			1	3		3	3	3	1		3
Anochetus ?UKZN_02				1		3		2		3		2		1
Anochetus faurei		2									2			
Anoplolepis custodiens	11	9		10		6	2	1	2	17	11	1		12
Bothroponera ?UKZN_01	1									1				
Camponotus ?UKZN_06 (*niveosetosus* gp.)		1							1		1			1
Camponotus UKZN_02 (*cintellus* gp.)	2		1	1	12	2		1	5	4		2	12	6
Camponotus UKZN_04						1				1				
Camponotus UKZN_05 (*maculatus* gp.)	2			2	9	1	2			3	2		9	2
Cardiocondyla ?*emeryi*						1				1				
Carebara UKZN_02			1	1	1				1			1	1	2
Crematogaster ?*rufigena*					4				3				4	3
Crematogaster rectinota	35	14	29	5		41	23	18	23	76	37	47		28
Diplomorium UKZN_02	1	2			1	1		2		2	2	2	1	
Discothyrea oculata	1	1	1		1					1	1	1	1	
Dorylus UKZN_01					1	1		1		1		1	1	
Hagensia havilandi						1	1	1	2	1	1	1		2
Hypoponera UKZN_04		1	2		3						1	2	3	
Lepisiota ?*capensis*	4	7	8	14	16	10	10	10	25	14	17	18	16	39
Lepisiota ?*crinita*	9		5	3	2	1	5		5	10	5	5	2	8
Lepisiota ?UKZN_03 (*capensis* gp.)						1				1				
Lepisiota ?UKZN_08 (*spinosior* gp.)					1								1	

Lepisiota UKZN_05 (*spinosior* gp.)				1					2					3
Lepisiota UKZN_11			1									1		
Leptogenys intermedia	3		8	1	13	1	5	11	4	4	5	19	13	5
Leptogenys UKZN_03		3	2	1	3		1	1	1		4	3	3	2
Mesoponera caffraria	6	3	4	3	5	2	9	8	3	8	12	12	5	6
Mesoponera nr sharpi						2				2				
Monomorium ?*junodi*	1					2	1			3	1			
Monomorium ?UKZN_02 (*salamonis* gp.)	5					4				9				
Monomorium UKZN_01	4	9	7	10	17	8	6	8	13	12	15	15	17	23
Monomorium UKZN_03	9	3	1	3		3			2	12	3	1		5
Monomorium UKZN_08	6	7	3	4	1	11	3	5	4	17	10	8	1	8
Myrmicaria natalensis	4		1	1		1	1		2	5	1	1		3
Nylanderia natalensis			2	6	2	10	1	6	1	10	1	8	2	7
Parasyscia ?UKZN_04						1	1			1	1			
Pheidole UKZN_02 (*megacephala* gp.)	52	55	55	65	74	65	55	56	54	117	110	111	74	119
Pheidole UKZN_03	20	3	3	2	2	11	4	10	6	31	7	13	2	8
Plagiolepis UKZN_01				2	4				1				4	3
Plectroctena mandibularis	3	1				1	1	2		4	2	2		
Solenopsis UKZN_01	8	8	8	9	12	6	5	6	3	14	13	14	12	12
Solenopsis UKZN_02			1	1	1			1	1			2	1	2
Solenopsis UKZN_03	3	6		1	1		2	4	1	3	8	4	1	2
Solenopsis UKZN_05			1				1	1	1		1	2		1
Solenopsis UKZN_06								3	1			3		1
Strumigenys ?*faurei*	1			1				2	3	1		2		4
Strumigenys ?UKZN_01		4	2	1		1	1	2	1	1	5	4		2
Strumigenys ?UKZN_02							1		1		1			1
Tapinolepis ?UKZN_05			1		3							1	3	
Tapinolepis UKZN_04							1				1			
Technomyrmex cf. pallipes	5	4		5	2	4	2	6	5	9	6	6	2	10
Tetramorium ?UKZN_03 (*setigerum* gp.)	13	10	9	28	7	19	17	20	18	32	27	29	7	46

Tetramorium ?UKZN_07 (*setigerum* gp.)		2	6	2		3		5		3	2	11		2
Tetramorium ?UKZN_08 (*similimum* gp.)		1			3	1	1	2	3	1	2	2	3	3
Tetramorium ?UKZN_09 (*similimum* gp.)	4	3	6	11	9	1	11	1	14	5	14	7	9	25
Tetramorium ?UKZN_11 (*simillimum* gp.)	4	3	6	10	7	2	4		6	6	7	6	7	16
Tetramorium ?UKZN_15 (*sericeiventre* gp.)	8		2	10	13	10	1	1	19	18	1	3	13	29
Tetramorium ?UKZN_18 (*squaminode* gp.)	3	2	3		5		3	5	5	3	5	8	5	5
Tetramorium ?UKZN_19 (*squaminode* gp.)					2								2	
Tetramorium ?UKZN_21 (*squaminode* gp.)	1	4	4	4	4	5	5	6	3	6	9	10	4	7
Tetramorium notiale	2	2	4		2	2	4		1	4	6	4	2	1
Tetramorium nr erectum		1	3	1	4		1	2	1		2	5	4	2
Tetramorium nr grassii	1		1		8		1	1	1	1	1	2	8	1
Tetramorium thoth	2	3	1	1	1	4	5	2		6	8	3	1	1
Tetramorium UKZN_42		1				1				1	1			
Total no. records	252	193	221	239	257	277	217	227	264	529	410	448	257	503
Total no. species	35	32	36	35	38	43	38	36	42	49	46	47	38	46
Mean no. species	14,3	12,0	12,3	13,6	13,5	13,0	11,6	12,6	12,7	21,4	17,8	19,0	13,6	21,5