

Olivier-Espejel et al. Assessment of beetle diversity, community composition and potential threats to forestry using kairomone-baited traps

### **Supplementary Figures index**

Supplementary Figure 1. Rank abundance of all captured morphospecies

Supplementary Figure 2. Individual-based rarefaction and extrapolation of beetle assemblages

Supplementary Figure 3. Correlation matrix of environmental variables.

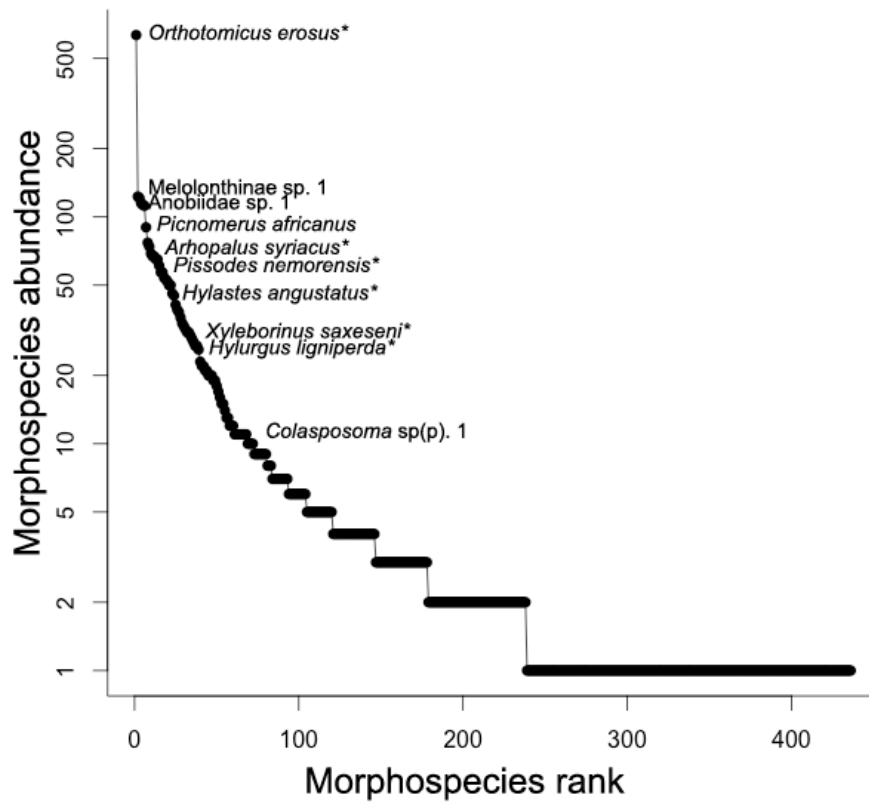


Figure S1. Rank abundance of all (morpho)species captured in *Pinus* plantations in 2007, 2008 and 2009 in South Africa. Labeled species include the most abundant native and \*exotic species often associated to pines causing different levels of damage.

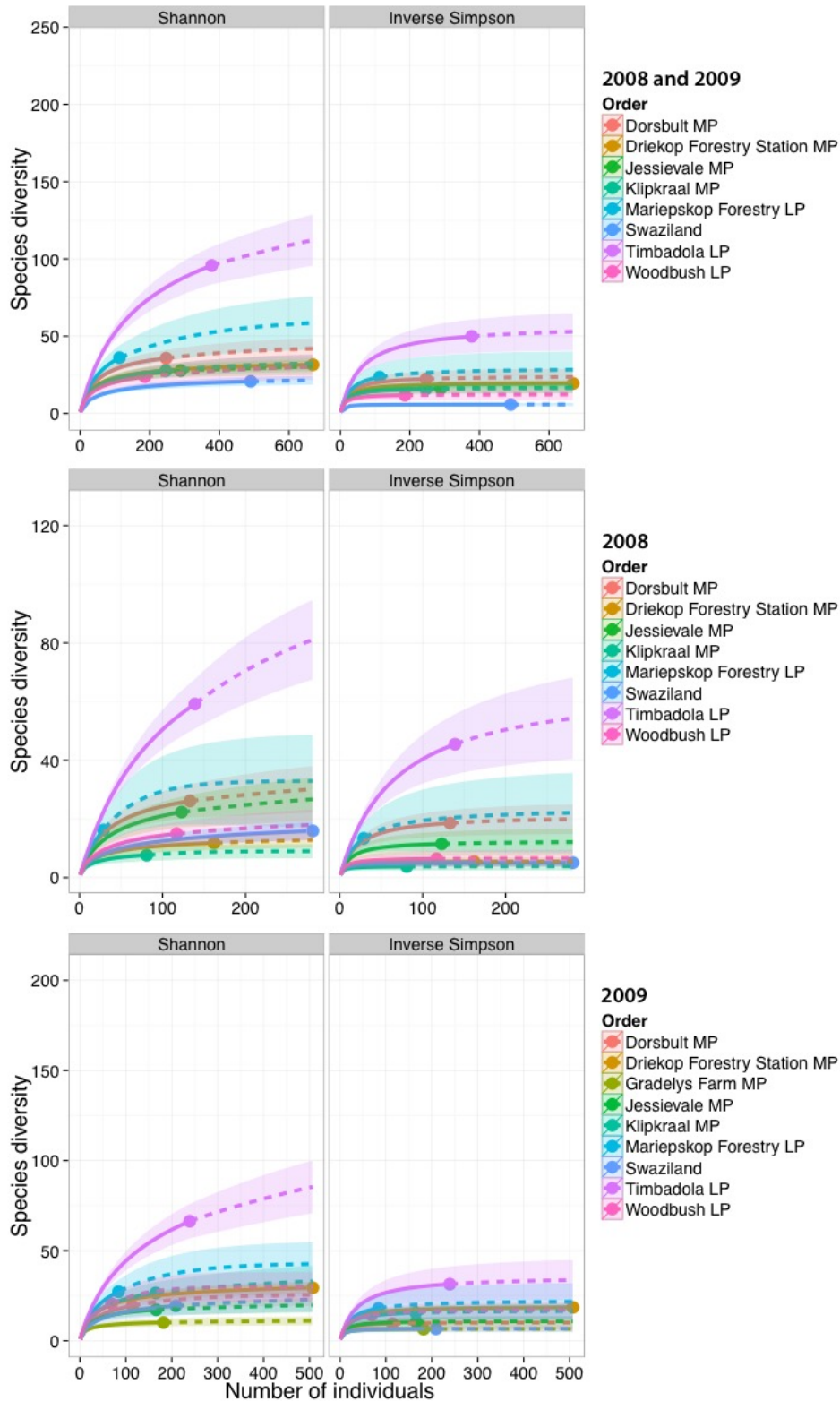


Figure S2. Individual-based rarefaction and extrapolation of beetle assemblages (pooled years and by year 2008 and 2009) showing the exponential of Shannon's entropy index and the inverse of Simpson's concentration index). 95% confidence intervals were calculated by a bootstrap method based on 10 000 replications.

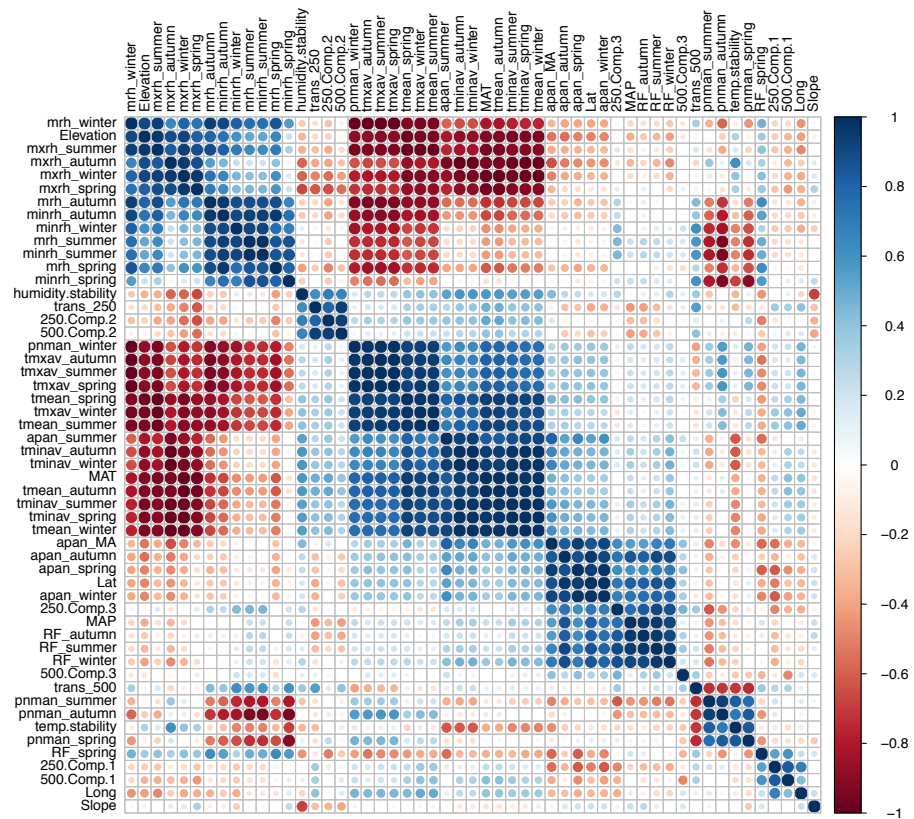


Figure S3. Correlation matrix of environmental variables. Shading intensities represent Spearman correlation coefficients between traits; blue represents positive correlations while red represents negative correlations.

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#### Supplementary Table index

Supplementary Table 1. Environmental and biogeographic variables analyzed using vector-fitting (*envfit* function in Vegan R package) against the two primary axes of the NMDS ordination from 2008/2009 pooled data.

Supplementary Table 2. Identification and distribution of beetles captured in *Pinus* plantations in 2007, 2008 and 2009.

Table S1. NMDS1/NMDS2 and Envfit results of beetle communities from pooled data 2008/2009

<b>Environmental variable</b>	<b>NMDS1</b>	<b>NMDS2</b>	<b>R2</b>	<b>P value</b>	
Potential evaporation winter (mm)	0.20413	0.97894	0.9295	0.002	**
Latitude	0.25536	0.96685	0.8625	0.012	*
Potential evaporation (mm) mean annual	0.33592	0.94189	0.8316	0.01	**
Potential evaporation spring (mm)	0.30275	0.95307	0.8222	0.017	*
Potential evaporation autumn (mm)	0.18649	0.98246	0.8063	0.015	*
Maximum relative humidity autumn (%)	-0.94791	-0.31853	0.7808	0.02	*
Maximum relative humidity winter (%)	-0.99627	-0.08635	0.772	0.03	*
Maximum relative humidity summer(%)	-0.94924	-0.31454	0.7572	0.007	**
Maximum relative humidity spring (%)	-0.98888	-0.14872	0.7314	0.033	*
Potential evaporation summer (mm)	0.67026	0.74213	0.727	0.038	*
Elevation	-0.93877	-0.34455	0.7239	0.051	.
Minimum temperature spring (°C)	0.91684	0.39926	0.6871	0.071	.
Minimum temperature summer (°C)	0.92487	0.38028	0.6524	0.086	.
Average temperature spring (°C)	0.98637	0.16453	0.6482	0.085	.
Mean annual temperature (°C)	0.975	0.22219	0.6441	0.086	.
Average temperature autumn (°C)	0.96487	0.26272	0.6335	0.098	.
Minimum temperature autumn (°C)	0.8253	0.5647	0.6106	0.109	.
Average temperature winter (°C)	0.92553	0.37868	0.6056	0.123	.
Average temperature summer (°C)	0.99977	-0.02133	0.5988	0.123	.
Minimum temperature winter (°C)	0.73653	0.6764	0.5861	0.115	.
Land use at 500m radius (PCA comp. 3)	-0.36703	0.93021	0.5732	0.115	.
median rainfall autumn (mm)	-0.06145	0.99811	0.5715	0.113	.
Median rainfall summer (mm)	-0.01925	0.99981	0.5622	0.115	.
Average relative humidity autumn (%)	-0.89242	0.4512	0.5405	0.149	.
Average relative humidity winter (%)	-0.5889	0.8082	0.5102	0.174	.
Maximum temperature autumn (°C)	0.96083	-0.27712	0.5098	0.193	.
Maximum temperature winter (°C)	0.96041	-0.27859	0.5079	0.19	.
Median rainfall winter (mm)	0.12751	0.99184	0.506	0.164	.
Average relative humidity spring (%)	-0.90786	0.41928	0.4987	0.197	.
Maximum temperature summer (°C)	0.88802	-0.45981	0.4935	0.198	.
Maximum temperature spring (°C)	0.96869	-0.24828	0.492	0.204	.

Mean annual precipitation (mm)	0.019	0.99982	0.4833	0.17
Reference crop evaporation winter (mm)	0.91914	-0.39392	0.4333	0.257
Average relative humidity summer (%)	-0.6797	0.73349	0.4294	0.251
Reference crop evaporation summer (mm)	0.1763	-0.98434	0.4165	0.239
Transformed land at 250m radius	0.01515	-0.99989	0.4157	0.247
Minimum relative humidity winter (%)	-0.28909	0.9573	0.3801	0.302
Minimum relative humidity summer (%)	-0.56182	0.82726	0.38	0.304
Minimum relative humidity autumn (%)	-0.66626	0.74572	0.3718	0.322
Transformed land at 500m radius	-0.9814	-0.19195	0.3398	0.359
† Land use at 500m radius (PCA comp. 2)	0.02215	-0.99975	0.303	0.394
Minimum relative humidity spring (%)	-0.57371	0.81906	0.2839	0.422
Reference crop evaporation autumn (mm)	0.60226	-0.7983	0.2779	0.45
Median rainfall spring (mm)	-0.91566	-0.40196	0.2726	0.469
Reference crop evaporation spring (mm)	0.47573	-0.87959	0.2683	0.453
Longitude	0.07265	-0.99736	0.2548	0.488
† Land use at 250m radius (PCA comp. 1)	0.01957	-0.99981	0.2543	0.491
Humidity stability	0.9991	0.04236	0.2518	0.468
† Land use at 250m radius (PCA comp. 3)	-0.61453	0.78889	0.2406	0.503
Slope	-0.04741	0.99888	0.2345	0.51
Temperature stability	-0.37049	-0.92884	0.213	0.522
† Land use at 250m radius (PCA comp. 2)	0.04079	-0.99917	0.2105	0.541
† Land use at 500m radius (PCA comp. 1)	0.19993	-0.97981	0.1488	0.677

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

† Land use categories (dimensionality was reduced using PCA): Grassland, indigenous forest, low shrubland, thicket/dense bush, water seasonal, wetlands and woodland/open bush

Species	Commonness		Years			Distribution (by province)
	Areas	Sites	07	08	09	
<b>Rhysodidae</b>						
<i>Dhysores thoreyi</i> (Grouvelle, 1903)	5	6	*	*	*	MP LP KZN SZ
<b>Carabidae</b>						
<i>Acupalpus egenus</i> (Peringuey, 1896)		2		*	*	MP LP
<i>Aristopus distigma</i> (Tschitscherine, 1898)		1			*	LP
<i>Aristopus submarginatus</i> (Straneo, 1963)		1			*	LP
<i>Arsinoe</i> nr. <i>quadriguttata</i> (Castelnau, 1835)		1		*		LP
Brachiniinae sp. 1		1		*		SZ
<i>Calleida</i> sp. 1	1		*			KZN
<i>Calosoma chlorostictum</i> (Dejean, 1831)	3		*			MP KZN
Carabidae sp. 1		2		*	*	MP
<i>Cerapterus</i> sp. 1	1		*			KZN
<i>Chlaenius</i> (Boh) <i>validicornis</i> (Boheman, 1848)		1			*	LP
<i>Coptodera</i> ( <i>haplocrepis</i> ) <i>fasciata</i> (Haldeman 1843)		2			*	LP SZ
<i>Coptoptera apicalis</i> (Peringuey, 1896)		2	*			KZN
<i>Coptoptera</i> sp. 1	1	5	*	*	*	MP LP KZN
<i>Coptoptera</i> sp. 2	1	5	*	*	*	MP LP KZN SZ
<i>Craspedophorus</i> nr. <i>ornatus</i> (Boheman, 1848)		1			*	LP
<i>Euleptus caffer</i> (Boheman, 1848)	1		*			KZN
Harpalinae sp. 1		2		*		MP SZ
<i>Harpalus</i> sp. 1		1			*	LP
<i>Harpalus</i> sp. 2	1		*			KZN
<i>Lebia</i> sp. 1		1			*	LP
<i>Lebia</i> sp. 2		1		*		LP
<i>Lebia</i> sp. 3		1			*	LP
Lebiinae sp. 1		1			*	LP
<i>Lebistrina peringueyi</i>		1			*	LP
<i>Lebodontus</i> nr. <i>tresignatus</i>		2			*	LP SZ
<i>Macrocheilus</i> sp. 1		1		*		LP
<i>Mesolestes</i> sp. 1	1	2	*	*	*	MP LP
<i>Microlestes</i> sp. 1		1		*		LP
<i>Neoglyptus brevicornis</i> (Peringuey, 1896)		1		*		LP
<i>Notobia</i> ( <i>Diatypus</i> ) <i>curllelli</i>		2			*	MP LP
<i>Orthotrichys</i> sp. 1	1		*			KZN



<i>Parena ferruginea</i> (Chaudoir, 1978)		1		*		LP
<i>Parophonus (Heterohyparpalus) caffer</i>	1	1		*	*	LP KZN
<i>Parophonus</i> nr. <i>holosericeus</i> (Dejean, 1829)		1			*	LP
<i>Paussus (Spinicoxipaussus) spinicoxis</i> (Westwood, 1850)		1			*	LP
<i>Paussus</i> sp. 1	1			*		KZN
<i>Platymetopus figuratus</i> (Boheman, 1848)		4			*	MP LP SZ
<i>Siopelus</i> nr. <i>australis</i> (Facchini 2012)	1			*		KZN
<i>Siopelus bulirschi</i> (Facchini, 2002)	1			*		KZN
<i>Siopelus caffrarius</i> (Facchini, 2012)	1			*		KZN
<i>Siopelus</i> sp. 1		1			*	LP
<i>Siopelus (Africobatus)</i> sp. 2		1			*	LP
<i>Siopelus (Africobatus) natalicus</i> (Peringuey, 1896)	1	2		*	*	MP KZN
<i>Siopelus (Neosiopelus) puctatellus</i> (Reiche, 1847)	1	3		*	*	MP LP KZN
<i>Siopelus (Aulocoryssus) venustulus</i> (Boheman, 1848)	2	2		*	*	MP KZN
<i>Siopelus</i> nr. <i>micans</i> (Klug, 1833)		1			*	LP
<i>Stenolophus (Egadruma) capensis</i>		5			*	MP LP SZ
<i>Thyreopterus</i> nr. <i>flavosignatus</i> (Dejean, 1831)		2			*	LP SZ
Trechini sp. 1	1	2		*	*	MP KZN
Trechini sp. 2	1	2		*	*	LP KZN SZ
<i>Xenitenus</i> sp. 1		2			*	MP LP
<i>Xenodochus (Axinotoma) obtuseangula</i> (Peringuey, 1896)		3			*	MP LP SZ
Dytiscidae						
<i>Copelatus</i> sp. 1		1			*	LP
Dytiscidae sp. 1		1			*	MP
<i>Hydaticus</i> sp. 1		1			*	MP
Histeridae						
Histeridae sp. 1	1			*		KZN
Histeridae sp. 2		2			*	LP SZ
<i>Hypobletus leleupi</i> (Thérond, 1965)	1	5		*	*	MP LP KZN SZ
<i>Pachycraeus</i> sp. 1		1			*	LP
<i>Perfidolenus perfidus</i> (Reichardt, 1936)		1			*	LP
<i>Philoeolister brounsi</i>		2			*	MP
<i>Saprinus</i> nr. <i>rhytipterus</i> (Marseul, 1862)		1			*	MP
<i>Tribalus</i> nr. <i>kochi</i> (Thérond, 1965)		3			*	MP LP

Hydrophilidae						
<i>Berosus cuspidatus</i> (Erichson 1843)	1			*		MP
<i>Hydrochara elliptica</i> (Fabricius, 1801)	1			*		MP
Hydrophilidae sp. 1	1				*	MP
Hydrophilidae sp. 2	1			*		MP
Ptiliidae						
Ptiliidae sp. 1	3			*	*	MP
Ptiliidae sp. 2	1				*	MP
Scaphidiidae						
Scaphidiidae sp. 1	2	5		*	*	MP LP KZN
Scydmaenidae						
Scydmaenidae sp(p). 1	1	6		*	*	MP LP
Scydmaenidae sp. 2	1				*	MP
Cantharidae						
<i>Afronycha</i> sp. 1		1			*	LP
<i>Cantharis caffra</i> (Boheman, 1851)	2			*		LP KZN
Corylophidae						
Corylophidae spp.	2	7		*	*	MP LP KZN
Lampyridae						
<i>Lampyris natalensis</i> (Boheman, 1851)	1			*		KZN
<i>Lampyris</i> nr. <i>nigripennis</i> (Boheman, 1851)	1	1		*	*	MP KZN
Lycidae						
<i>Adoceta</i> nr. <i>barkeri</i>		1			*	LP
<i>Flagrax</i> nr. <i>atripes</i> (Pic, 1922)	1	4		*	*	MP KZN
<i>Lycus rostratus</i> (Linnaeus, 1767)	3			*		MP KZN
Dermestidae						
Dermestidae sp. 1		1			*	LP
Dermestidae sp. 2	1			*		KZN
Dermestidae sp. 3	1			*		KZN
Dermestidae sp. 4	1			*		MP
Dermestidae sp. 5		1			*	LP
Dermestidae sp. 6	1			*		KZN
Dermestidae sp. 7		1			*	LP
Dermestidae sp. 8		1			*	LP
Dermestidae sp. 9		1			*	LP
Dermestidae sp. 10		1			*	LP
Dermestidae sp. 11		1			*	LP
Dermestidae sp. 12		1			*	LP
<i>Orphinus</i> sp. 1		1			*	LP
Melyridae						

<i>Colotes plagialis</i> (Abeille de Perrin 1900)	1		*		MP
<i>Colotes pseudochloropterus</i> (Wittmer 1991)	1		*		KZN
Malachiinae sp. 1	2		*	*	KZN
Malachiinae sp. 2	1		*		LP
Malachiinae sp. 3	1			*	MP
Malachiinae sp. 4	2			*	MP
nr. Melyrinae	1		*		LP
<i>Melyris</i> sp(p).	3	4	*	*	MP LP KZN
<i>Philhedonus</i> sp. 1	1		*		KZN
Cleridae					
<i>Gyponix capeneri</i>	2		*	*	MP LP
<i>Gyponix</i> sp. 1	4	9	*	*	MP LP KZN SZ
<i>Tarsostenus univittatus</i> (Rossi, 1792)	1			*	MP
Elateridae					
<i>Aeloides</i> nr. <i>contractus</i>	1		*		LP
<i>Agrypnus amplicollis</i> (Boheman, 1851)	1			*	MP
<i>Aliteus caffer</i>	1		*		KZN
<i>Calais</i> sp. 1	1		*		KZN
Cardiophorinae sp. 1	1	1	*	*	MP KZN
Cardiophorinae sp. 2	4	2	*	*	MP KZN
Cardiophorinae sp. 3		2		*	MP LP
Cardiophorinae sp. 4	1	2	*	*	MP LP KZN
Elateridae sp. 1		1		*	SZ
Elateridae sp. 2	1		*		KZN
Elateridae sp. 3		1		*	LP
Elateridae sp. 4		3		*	MP LP
Elateridae sp. 5		1		*	MP
Elateridae sp. 6		1		*	LP
<i>Podeonius</i> nr. <i>newtoni</i>		1		*	MP
<i>Podeonius</i> nr. <i>granulipenis</i>		6		*	MP LP SZ
<i>Propsephus collaris</i> (Boheman, 1851)		1		*	LP
<i>Propsephus insignis</i> (Candeze)		1		*	LP
<i>Propsephus</i> sp. 1		4		*	MP LP SZ
<i>Pseudopristilophus summus</i> (Candeze)		2		*	MP LP
Scirtidae					
<i>Scirtus</i> sp. 1		1		*	LP
Throscidae					
Throscidae sp. 1		1		*	LP
Buprestidae					

<i>Anthaxia holmi</i> (Bily)		1			*	LP
<i>Chrysobotris dorsata</i> (Fabricius, 1787)	1	1	*		*	MP KZN
<i>Damarsila albomarginata</i> (Herbst, 1801)		3			*	MP LP
Heteroceridae						
Heteroceridae sp. 1		1			*	MP
Cryptophagidae						
<i>Micrambe</i> sp(p). 1	2	1	*	*		MP LP KZN
Biphyllidae						
Biphyllidae sp(p).	4	7	*	*	*	MP LP KZN
<i>Philothermus (Philothermopsis) maurus</i>		4			*	MP LP
Erotylidae						
<i>Amblyscellis kelleni</i>		1			*	LP
<i>Megalodacne grandis</i> (Fabricius, 1792)	1		*			KZN
<i>Palaeolybas coccinelloides</i> (Delkeskamp 1956)		1			*	LP
Nitidulidae						
<i>Carpophilus</i> sp. 1		1			*	LP
<i>Carpophilus</i> sp. 2		1			*	MP
<i>Carpophilus</i> sp. 3		1			*	LP
<i>Cybocephalus</i> sp. 1		1			*	MP
<i>Cybocephalus</i> sp. 2		1			*	LP
Nitidulidae sp. 1		1			*	LP
Nitidulidae sp. 2		1			*	SZ
Nitidulidae sp. 3	1		*			KZN
Passandridae						
Passandridae sp. 1		1			*	SZ
Laemophloeidae						
Laemophloeidae spp.	3	6	*	*	*	MP LP KZN SZ
Silvanidae						
<i>Parasilvanus oblitus</i> (Grouvelle, 1909)		1			*	MP
Latridiidae						
<i>Aridius nodifer</i> (Westwood 1839)		2			*	MP LP
nr. <i>Cartodere</i>		1			*	MP
Latridiidae sp. 1	3	6	*	*	*	MP LP KZN SZ
Latridiidae sp. 2		4			*	MP LP
Endomychidae						
nr. <i>Anamorphinae</i>		2			*	MP LP
Endomychidae sp. 1		1			*	LP
Endomychidae sp. 2		1			*	LP
<i>Mycetina turneri</i> (Arrow)		1			*	MP

Coccinellidae							
¥	<i>Harmonia axyridis</i> (Pallas, 1772)	1	5	*	*	*	MP KZN SZ
Zopheridae							
	<i>Ascetoderes foveicollis</i> (Reitter, 1877)	1	1	*		*	LP KZN
	<i>Carinophloeus raffrayi</i> (Grouvelle, 1894)		1			*	SZ
	<i>Microprius terrenus</i> (Fairmaire, 1868)	2	4	*	*	*	MP LP KZN SZ
	<i>Pycnomerus africanus</i> (Grouvelle)	3	6	*	*	*	MP LP KZN
	<i>Sassaka turneri</i>	2	5	*	*	*	MP LP KZN
	<i>Trachipholis similis</i>		4			*	MP LP SZ
	<i>Triboderus capicola</i> (Grouvelle, 1894)		1			*	LP
	<i>Xyloluemus africanus</i>	1	1	*		*	MP KZN
Anthicidae							
	Anthicidae sp. 1		4			*	MP LP
	Anthicidae sp. 2	2	1	*	*	*	MP KZN
	Anthicidae sp. 3		1			*	MP
	Anthicidae sp. 4		1			*	LP
	Anthicidae sp. 5	1		*			KZN
Mycetophagidae							
	Mycetophagidae sp. 1		1			*	LP
Oedemeridae							
	<i>Nacatrorus hottentotus</i> (Fairmaine)	2	1	*	*	*	MP LP KZN
Salpingidae							
	<i>Sphaeristes</i> sp. 1	3	6	*	*	*	MP LP KZN SZ
Meloidae							
	<i>Hycleus lunata</i> (Pallas, 1782)	1	1	*	*		LP KZN
	<i>Hycleus</i> sp. 1	1		*			KZN
Mordellidae							
	nr. <i>Mordellistena</i>		1			*	LP
	Mordellidae sp. 1		1			*	LP
	Mordellidae sp. 2		1			*	LP
	Mordellidae sp. 3		1			*	LP
	Mordellidae sp. 4	1	2	*	*	*	MP LP SZ
	Mordellidae sp. 5	1		*			KZN
	Mordellidae sp. 6		1			*	MP
	Mordellidae sp. 7		1			*	LP
	Mordellidae sp. 8		1			*	LP
	Mordellidae sp. 9		1			*	SZ
Tenebrionidae							
	Alleculinae sp. 1		1			*	MP
	Alleculinae sp. 2	1		*			KZN

Alleculinae sp. 3	1	3	*	*	MP KZN
Alleculinae sp. 4		2		*	MP
Alleculinae sp. 5		1		* **	MP
Alleculinae sp. 6	1		*		KZN
Alleculinae sp. 7	1		*		MP
Alleculinae sp. 8		1		*	LP
<i>Ceropia romandi</i>		2		* *	LP SZ
<i>Corticeus chakai</i> (Bremer, 1995)	5	6	*	* *	MP LP KZN SZ
<i>Cryphaeus taurus</i> (Fabricius, 1801)	2		*		KZN SZ
<i>Himatismus buprestoides</i> (Gerst)	1	1	*	*	LP KZN
<i>Himatismus nr. vansoni</i> (Koch 1950)		1		*	LP
<i>Hoplonyx calcaratus</i> (Fåhraeus, 1870)		1		* *	LP
<i>Hoplonix micans</i>	2		*		KZN
<i>Hoplonyx angusticollis</i> (Schaufuss, 1870)	5	7	*	* *	MP LP KZN SZ
<i>Hoplonyx</i> sp. 1	5	2	*	* *	MP KZN SZ
<i>Lagria</i> sp. 1		1		* *	LP
<i>Lagria</i> sp. 2	1		*		KZN
<i>Lagria vulnerata</i>		1		* *	LP
Lagriinae sp. 1		1		*	LP
Lagriinae sp. 2	1		*		KZN
Lagriinae sp. 3		1		*	MP
<i>Lyphia abyssinica</i> (Fairmaire, 1893)		1		*	MP
<i>Paramarysmus</i> sp. 1	3	6	*	* *	MP LP KZN SZ
<i>Paramarysmus</i> sp. 2	1	4	*	* *	MP SZ
<i>Paramarysmus</i> sp. 3		1		* *	LP
<i>Phrenapatini</i> sp. 1		2		*	MP LP
Strongyliini sp. 1	1	1	*	*	MP KZN
Strongyliini sp. 2	1		*		KZN
Strongyliini sp. 3		1		*	SZ
<i>Strongylium caffrum</i> (Maklin, 1864)	4	5	*	* *	MP LP KZN SZ
<i>Strongylium suspicax</i> (Kolbe, 1894)	1		*		KZN
<i>Strongylium wahlbergi</i> (Maklin 1867)		1		*	LP
<i>Uloma pusilla</i> (Gerstaecker, 1871)	1		*		KZN
<i>Villiersia trivialis</i> (Fairmaire, 1903)	1		*		KZN
<i>Vutsimus</i> sp. nov?		1		*	LP
Melandrydae					
Melandrydae sp. 1		1		*	SZ
Scraptiidae					
Scraptiidae sp. 1	2	5	*	* *	MP LP KZN
Scraptiidae sp. 2		1		*	LP
Anobiidae					

Anobiidae sp. 1	4	6	*	*	*	MP KZN SZ
Anobiidae sp. 2		1		*		LP
<b>Bostrichidae</b>						
<i>Apate</i> nr. <i>congener</i> (Gerstäcker, 1855)		1		*	*	SZ
<i>Bostrichoplites cornutus</i> (Olivier, 1790)		1			*	SZ
<i>Bostrichoplites peltatus</i> (Lesne)		1			*	SZ
<i>Enneadesmus forficula capensis</i> (Lesne, 1901)		1			*	SZ
<i>Heterobostrychus brunneus</i> (Murray 1867)		1		*		SZ
<i>Xyloperthodes castaneipennis</i> (Fåhraeus, 1871)		3		*	*	LP SZ
<b>Scarabaeidae; Melolonthinae</b>						
<i>Achloa echinaticeps</i> (Péringuey, 1904)	1			*		MP
<i>Ceratochelus elegantulus</i> (Blanchard, 1850)	1			*		KZN
<i>Congella</i> sp. 1	4	5	*	*	*	MP LP KZN
<i>Congella</i> sp. 2	3	2	*	*	*	MP KZN
<i>Congella</i> sp. 3	2	2	*			MP KZN
<i>Congella</i> sp. 4		2		*	*	MP LP
<i>Coniopholis</i> sp. 1	1	2	*	*	*	MP LP
<i>Dichecephala</i> nr. <i>ovata</i> (Fahraeus, 1857)		1			*	LP
<i>Dolerotarsa emendatrix</i> (Peringuey, 1904)		1			*	LP
<i>Heterochelus lydenburgensis</i> (Kulzer, 1960)	2			*		KZN
nr. <i>Hoplia</i>	3	2	*	*	*	MP KZN
Hopliini sp. 1	1		*			KZN
Hopliini sp. 2	1		*			KZN
Hopliini sp. 3	1		*			MP
Hopliini sp. 4	3	5	*	*	*	MP LP
Hopliini sp. 5	1		*			KZN
Hopliini sp. 6	1		*			KZN
Hopliini sp. 7	1		*			KZN
Hopliini sp. 8	1	3	*	*	*	MP LP SZ
Hopliini sp. 9	1	1	*	*		MP
<i>Lepiserica</i> (Brenske, 1900)	5	6	*	*	*	MP LP KZN
<i>zoutpaniana</i>						
Melolonthinae sp. 1	3	4	*	*	*	MP KZN
Melolonthinae sp. 2	1		*			KZN
Melolonthinae sp. 3	1		*			KZN
Melolonthinae sp. 4	1		*			KZN

Melolonthinae sp. 5		1			*	LP
<i>Monochelus calcaratus</i> (Burmeister, 1844)	2		*			MP KZN
<i>Monochelus inops</i> (Péringuey, 1902)	1		*			MP
<i>Monochelus ornatus</i> (Burmeister, 1844)	1		*			KZN
<i>Neoserica</i> sp(p).	4	4	*	*	*	MP LP KZN
<i>Pegylis sommeri</i> (Burmeister, 1855)	3		*			MP KZN
<i>Pegylis vittata</i> (Fahraeus, 1857)	2	1	*	*		MP KZN
<i>Pleophylla navicularis</i> (Burmeister, 1855)	2		*			KZN
<i>Pleophylla</i> sp(p). 1	3	5	*	*	*	MP LP KZN SZ
<i>Pleophylla</i> sp. 2	1		*			KZN
<i>Schizonycha</i> nr. <i>affinis</i> (Boheman, 1857)	3	2	*	*	*	MP LP KZN
<i>Schizonycha continens</i> (Péringuey, 1904)		1			*	LP
<i>Schizonycha</i> sp. 1	2	4	*		*	MP LP KZN SZ
<i>Schizonycha</i> sp. 2	1	3	*	*	*	MP LP SZ
Sericini sp. 1	2		*			KZN
Sericini sp. 2	1	2	*	*		MP SZ
<i>Trochalus</i> sp. 1	3	6	*	*	*	MP LP KZN SZ
<b>Scarabaeidae</b>						
<i>Adoretus ictericus</i> (Hermann Burmeister 1844)	4	2	*	*	*	MP LP KZN SZ
<i>Adoretus impurus</i> (Fahraeus, 1857)		2		*	*	LP SZ
<i>Adoretus</i> nr. <i>tessulatus</i> (Burmeister 1855)	3	2	*	*	*	MP LP KZN SZ
<i>Adoretus</i> sp. 1	4		*			MP KZN
<i>Adoretus</i> sp. 2		1			*	LP
<i>Anomala (Aprosterna)</i> nr. <i>tolerata</i> (Péringuey, 1902)		1			*	LP
<i>Anomala (Aprosterna)</i> nr. <i>repensa</i> (Péringuey, 1902)		1			*	LP
<i>Anomala</i> (subg. <i>Aprosterna</i> ) <i>ustulata</i> (Arrow, 1899)		2		*	*	LP SZ
Aphodiini sp. 1	1		*			KZN
Aphodiini sp. 2		2		*	*	MP
<i>Aphodius</i> nr. <i>pseudolividus</i> (Balthasar, 1941)		1			*	LP
<i>Atrichela phinistigrina</i> (Burmeister, 1855)	2		*			MP KZN
<i>Chthonobius conspersus</i> (Burmeister, 1847)		1		*		LP
<i>Cyphonistes vallatus</i> (Wiedemann, 1823)	1		*			KZN



<i>Cyrtothyrea marginalis</i> (Swartz, 1817)	3		*			MP KZN
<i>Diplognatha striata</i> (Janson, 1877)	1		*			MP
<i>Genuchus nigriclavus</i> (Boheman, 1857)		1		*		SZ
<i>Heteronychus arator</i> (Fabricius, 1775) <i>arator</i>	1		*			MP
<i>Heteronychus rusticus</i> (Klug, 1832)	1		*			KZN
<i>Mesontoplatys dorsalis</i> (Klug)		1			*	LP
<i>Myodermum rufum</i> (Waterhouse, 1885)		1			*	LP
<i>Neocolobopterus maculicollis</i> (Reiche, 1847)	2		*			MP KZN
<i>Oplostomus</i> sp. 1	1		*			KZN
<i>Pachnoda sinuata</i> (Fabricius, 1775)	1		*			KZN
<i>Paraphodius</i> sp. 1		2		*	*	MP LP
<i>Pleuraphodius</i> nr. <i>brunneus</i> (Thunberg, 1818)	1	2	*	*		MP KZN
<i>Pycnoschema scrofa</i>	2		*			MP KZN
<i>Rhizoplatodes castaneipennis castaneipennis</i> (Boheman, 1857)		1		*		LP
<i>Rhyssemus africanus</i> (Petrovitz, 1963)	1		*			KZN
Rutelinae sp. 1	2	1	*	*		MP KZN
Rutelinae sp. 2		1		*		LP
<i>Scaptobius aciculatus</i> (Schaum, 1844)	1		*			KZN
<i>Stripsipher longipes</i> (Swederus, 1787)	2		*			MP KZN
<i>Stripsipher orientalis</i> (Ricchiardi, 2008)	5	4	*	*	*	MP KZN
<i>Stripsipher zebra</i> (Gory & Percheron, 1833)	1		*			MP
<b>Cerambycidae</b>						
<i>Afroartelida teunissenii</i> (Vives & Adlbauer, 2005)	3	2	*	*	*	MP KZN SZ
¥ <i>Arhopalus syriacus</i> (Reitter, 1895)	4	3	*	*	*	MP KZN SZ
<i>Ceroplesis orientalis</i> (Herbst, 1786)	1		*			MP
<i>Ceroplesis</i> nr. <i>sumptuosa</i> (Pascoe, 1875)		1		*		MP
<i>Ceroplesis thunbergii</i> (Fahraeus, 1872)		3		*		MP
<i>Coptops</i> sp. 1	1	1	*	*		SZ
<i>Coptops aedificator</i> (Fabricius, 1792)	1		*			MP
<i>Corus</i> nr. <i>latus</i> (Breuning, 1938)		1		*		SZ

<i>Delochilus obscurus</i> (Aurivillius, 1925)	4	5	*	*	*	MP LP KZN SZ
<i>Delochilus</i> nr. <i>prionoides</i> (Thomson, 1860)	1	2	*	*		MP LP KZN
<i>Derolus arciferus</i> (Gahan, 1891)		1		*		SZ
<i>Echyroschema multituberculatum</i>		1		*	*	SZ
<i>Erydeus pallens</i>		1			*	LP
<i>Exocentrus (ispaterus) echinulus</i> (Gahan, 1904)		1		*	*	SZ
Lamiinae sp. 1		1		*		LP
<i>Lepturges</i> sp. 1		2		*	*	LP SZ
<i>Litopus latipes</i> (Fabricius, 1787)	2	1	*		*	MP KZN
<i>Lygrus apicalis</i> (Fahraeus, 1872)		1		*	*	SZ
<i>Monochamus spectabilis</i> (Perroud, 1855)	1		*			KZN
<i>Otteisa sericea</i>	1		*			KZN
¥ <i>Phoracantha recurva</i> (Newman, 1840)	2	1	*	*	*	KZN SZ
¥ <i>Phoracantha semi-punctata</i> (Fabricius, 1775)	2	1	*	*	*	MP KZN SZ
<i>Prosopocera maculosa</i> (Pascoe, 1858)	1		*			MP
<i>Prospophilus serricornis</i> (Dalman, 1817)	1		*			MP
<i>Pterolophia ingrata</i> (Pascoe, 1864)		1		*		LP
<i>Xystrocera erosa</i> (Pascoe, 1864)	1	1	*	*		MP SZ
<i>Xystrocera</i> sp. 1	1		*			MP
<i>Zamium bimaculatum</i> (Fabricius, 1801)	2	1	*	*		KZN SZ
<i>Zosterius laetus</i> (Thomson, 1864)		1			*	LP
Trogidae						
<i>Trox rhyparoides</i> (Harold, 1872)		1		*		MP
<i>Trox squamiger</i> (Roth, 1851)	3		*			KZN
Chrysomelidae						
nr. <i>Afroeurymus</i>		1		*		SZ
<i>Aphthona</i> sp.1		1			*	MP
<i>Bruchidius</i> sp. 1		1			*	MP
<i>Bruchidius</i> sp. 2		1			*	LP
<i>Bruchidius</i> sp. 3		1			*	LP
<i>Chapuisia</i> sp. 1		2		*	*	MP
Chrysomelidae sp. 1		1			*	LP
<i>Colasposoma</i> sp(p). 1	1	2	*	*	*	MP KZN
<i>Colasposoma</i> sp. 2		2		*	*	LP
nr. <i>Echtrusia</i> (Lefevre 1892)		1		*		LP
Eumolpinae sp. 1		1		*		LP
Galerucinae sp. 1		1			*	MP

Galerucinae sp. 2		1		*		LP
<i>Gastrida</i> sp. 1		1			*	MP
<i>Hespera</i> sp. 1		1			*	MP
<i>Megaleruca</i> nr. <i>triloba</i> (Fabricius, 1781)		1		*	*	LP
<i>Mimolema</i> sp. 1	1			*		KZN
<i>Monolepta</i> nr. <i>melanogaster</i> (Wiedemann, 1823)		1			*	LP
<i>Peploptera curvilinea</i> (Jacoby, 1901)		1		*		SZ
nr. <i>Spermophagus</i>		1			*	LP
<i>Thysbina</i> sp. 1	1			*		KZN
Zeugophorinae sp. 1		1		*		LP
<b>Brentidae</b>						
Brentidae sp. 1		1			*	LP
Brentidae sp. 2		1		*		LP
<i>Orfilaia</i> (Haedo Rossi) <i>vusellata</i> (Gyllenhal)	3	1		*	*	MP KZN
<i>Orphanobrentus</i> nr. <i>laevicollis</i> (Thomson, 1858)		1		*		SZ
<i>Steredermia</i> (Sharp) sp. 1		1			*	LP
<i>Zemioses porcatus</i> (Pascoe, 1862)		2		*	*	LP SZ
<b>Anthribidae</b>						
Anthribidae sp. 1		1			*	MP
<i>Chirotenon longimanus</i> (Wolfrum, 1953)		2		*		LP SZ
nr. <i>Hodromerina</i>		1			*	MP
<i>Holophloeus nigellus</i> (Sparrm., 1785)		3		*	*	MP LP SZ
<i>Phloeobius notius</i> (Jordan)	1			*		KZN
<i>Tropiderinus nasutulus</i> (Wolfrum, 1953)		2		*		LP SZ
<b>Curculionidae</b>						
Apioninae sp. 1		2		*	*	MP
Apioninae sp. 2		1			*	MP
Apioninae sp. 3		1			*	MP
Baridinae sp. 1		1			*	LP
Baridinae sp. 2		2			*	MP LP
Baridinae sp. 3		1		*		LP
<i>Camptorhinus</i> sp. 1	1	1		*	*	MP SZ
<i>Cossonus</i> sp. 1		1			*	LP
<i>Cossonus</i> sp. 2	1			*		MP
Cryptorhynchinae sp. 1		2		*	*	LP SZ
Curculioninae sp. 1		1			*	MP
<i>Dolyopigus</i> sp. 1		1			*	LP

Erirhinae sp. 1	1		*			KZN
nr. <i>Eudraces</i>		1		*		LP
<i>Gonipterus</i> sp. 1	1		*			KZN
<i>Himatium</i> sp. 1		1			*	LP
<i>Himatium</i> sp. 2		1		*		SZ
<i>Himatium</i> sp. 3		2			*	MP LP
<i>Lixus</i> sp. 1	1		*			KZN
<i>Lixus</i> sp. 2	1		*			KZN
<i>Mecistocerus signatus</i>	1	4	*	*	*	MP LP SZ
<i>Mesphrigodes</i> sp. 1		1			*	LP
Myorrhini sp. 1		1		*		MP
nr. <i>Menemachus</i>		1			*	MP
<i>Phloepagus</i> sp. 1		2		*	*	LP SZ
<i>Phloepagus</i> sp. 2		1		*		LP
¥ <i>Pissodes nemorensis</i> (Germar, 1824)	3	6	*	*	*	MP LP KZN SZ
<i>Platypus</i> sp. 1		1			*	LP
<i>Sciobius</i> sp. 1		1			*	LP
<i>Sitophilus</i> sp. 1		2			*	LP SZ
<i>Stenoscelis</i> sp. 1	3	4	*	*	*	MP LP KZN SZ
<i>Stenoscelis</i> sp. 2	1	2	*	*	*	LP KZN
<i>Stenoscelis</i> sp. 3		1			*	SZ
Tanyrhynchini sp. 1			*			KZN
Curculionidae; Scolytinae						
<i>Ambrosiodmus natalensis</i> (Schaufuss, 1891)	1	5	*	*	*	MP LP KZN SZ
¥ <i>Ambrosiodmus obliquus</i> (LeConte, 1878)	1	1			*	LP KZN
<i>Coccotrypes niger</i> (Eggers, 1927)		3		*	*	LP SZ
<i>Ctonoxylon uniseriatum</i> (Schedl, 1965)		1		*		LP
<i>Cyrtogenius</i> sp. 1		1			*	LP
<i>Hapalogenius fuscipennis</i> (Chapuis)		1		*		SZ
¥ <i>Hylastes angustatus</i> (Herbst, 1793)	4	8	*	*	*	MP LP KZN SZ
¥ <i>Hylurgus ligniperda</i> (Fabricius, 1787)	4	3	*	*	*	MP KZN SZ
¥ <i>Hypocryphalus mangiferae</i> (Stebbing)		1			*	LP
¥ <i>Hypothenemus birmanus</i> (Eichhoff, 1878)		1		*		LP
<i>Hypothenemus seriatus</i> (Eichhoff, 1872)		1			*	SZ
<i>Hypothenemus</i> sp. 1		1		*	*	SZ
<i>Hypothenemus</i> sp. 2		1			*	MP
<i>Hypothenemus</i> sp. 3		1		*		LP
<i>Hypothenemus</i> sp. 4		1		*	*	SZ

<i>Hypothenemus</i> sp. 5		1			*	MP
<i>Lanurgus</i> sp. 1		2			*	LP
<i>Lanurgus</i> sp. 2		1			*	SZ
¥ <i>Orthotomicus erosus</i> (Wollaston, 1857)	5	9	*	*	*	MP LP KZN SZ
<i>Xyleborinus aemulus</i> (Wollaston, 1869)		1			*	LP
¥ <i>Xyleborinus saxeseni</i> (Ratzeburg, 1837)	2	4	*	*	*	MP LP KZN SZ
¥ <i>Xyleborus ferrugineus</i> (Fabricius, 1801)	1	1	*	*		MP KZN
<i>Xyleborus perforans</i> (Wollaston, 1857)		2			*	MP LP

MP, Mpumalanga Province; KZN, KwaZulu Natal Province; LP, Limpopo Province; SZ, Swaziland

\* Presence, ¥ Exotic, nr. = near