Ecography

ECOG-00532
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Supplementary material

Appendix 1: Full set of regression models constructed for mound densities. The coefficients of the models (or presence of factors) are provided as well as the degrees of freedom (df), log-likelihood, AIC*c* value, delta AIC*c* and Akaike weight. Models are ranked according to second order Akaike Information Criterion (AIC*c*) with the models receiving the most empirical support provided first. MAP is mean annual precipitation.

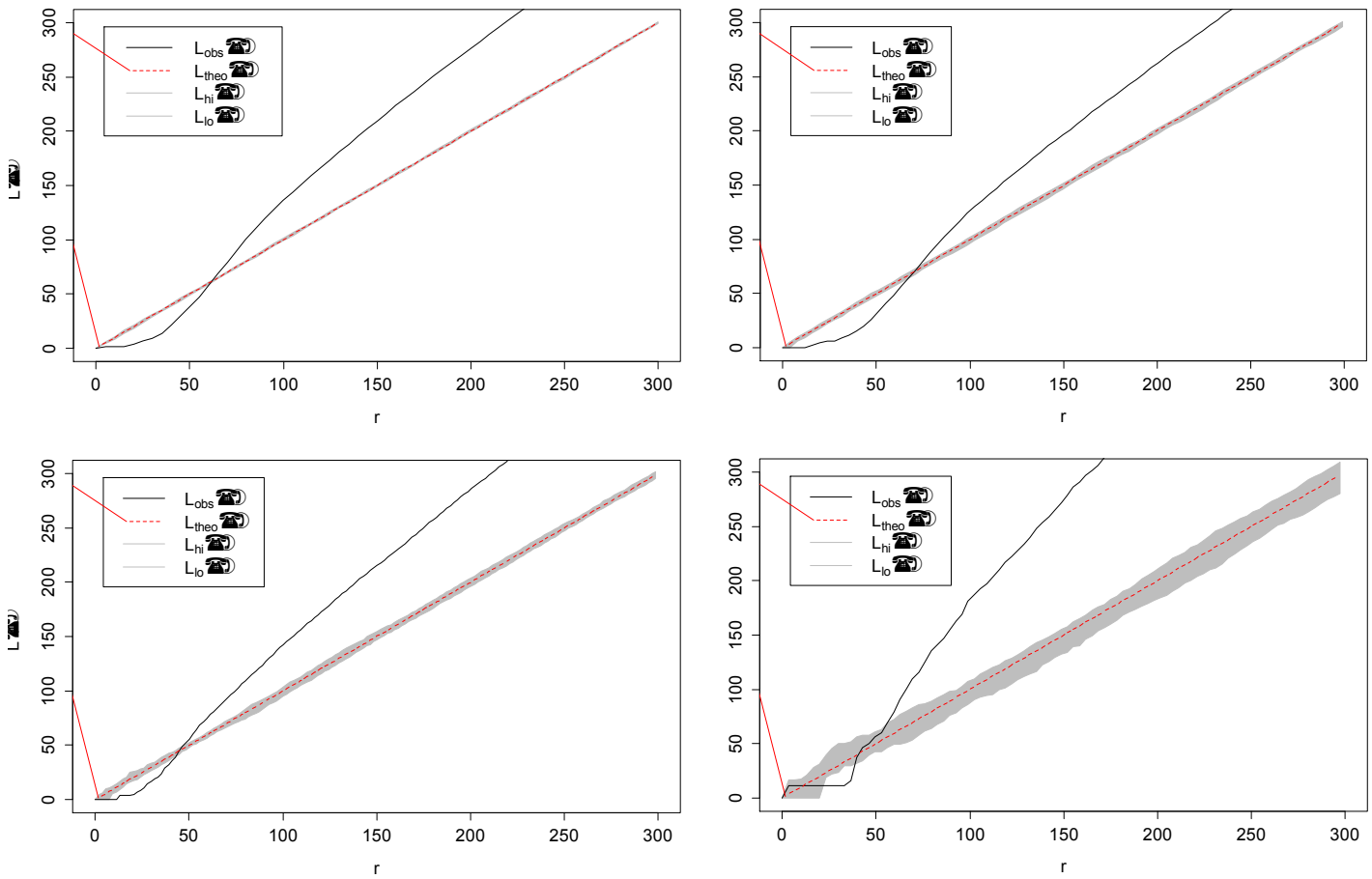
Appendix 2: Full set of regression models constructed for mound heights. The coefficients of the models (or presence of factors) are provided as well as the degrees of freedom (df), log-likelihood, AIC*c* value, delta AIC*c* and Akaike weight. Models are ranked according to second order Akaike Information Criterion (AIC*c*) with the models receiving the most empirical support provided first. MAP is mean annual precipitation.

Appendix 3: The top eight regression models for mound densities that received considerable empirical support ($\Delta_i < 2$) according to the second order Akaike Information Criterion (AIC*c*). The top selected model we used in the final analysis is in bold. Δ_i is the difference between a model's AIC*c* value and that of the model with the lowest AIC*c*; the Akaike weight w_i is the likelihood of a given model's being the best model in the set. MAP is mean annual precipitation.

Rank	Form of regression model	AIC_c	No. parameters	Δ_i	w_i
1	**% woody cover + Mound height + MAP + Geology + Fire regime + Mound height*MAP + Fire regime*MAP**	**36.8**	**8**	**0.00**	**0.044**
2	% woody cover + Mound height + MAP + Geology + Mound height*MAP	36.9	6	0.05	0.043
3	% woody cover + Mound height + MAP + Mound height*MAP	37.7	5	0.92	0.028
4	% woody cover + Mound height + MAP + Fire regime + Fire regime*Mound height + Fire regime*MAP + Mound height*MAP	37.9	8	1.08	0.026
5	% woody cover + Mound height + MAP + Geology + Fire regime + Mound height*MAP + Fire regime*Mound height + Fire regime*MAP	38.0	9	1.21	0.024
6	% woody cover + Mound height + MAP + % woody cover*Mound height + Mound height*MAP	38.5	6	1.70	0.019
7	% woody cover + Mound height + MAP + Geology + Fire regime + Mound height*MAP	38.6	7	1.78	0.018

8	% woody cover + Mound height + MAP + Fire regime + Mound height*MAP + Fire regime*MAP	38.7	7	1.86	0.017

Appendix 3, Figure A1: Results of Ripley's *K*-function analysis of termite mounds across each of the broad vegetation types, a) Skukuza, b) Napi, c) the gabbro intrusion and d) Pretoriuskop. L(r) values (a transformation of Ripley's *K*) are plotted against distance (r) in meters. The dashed line represents the distribution of mounds under complete spatial randomness, while the solid line represents observed mound distribution. Values below the dashed line indicate over-dispersion (even spacing) while values above the dashed line indicate clustering. 95% confidence intervals expected from a random landscape are plotted as the area shaded grey.



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Appendix 4: The top regression models for mound height that received considerable empirical support ($\Delta_i < 2$) according to the second order Akaike Information Criterion (AIC*c*), as well as the next best performing models ($\Delta_i < 5$), provided for comparative purposes. The top selected model we used in the final analysis is in bold. Δ_i is the difference between a model's AIC*c* value and that of the model with the lowest AIC*c*; the Akaike weight w_i is the likelihood of a given model's being the best model in the set. MAP is mean annual precipitation.

Rank	**Form of regression model**	**AIC_c**	**No. parameters**	**Δ_i**	**w_i**
1	**MAP**	**3013.7**	**2**	**0.00**	**0.318**
2	MAP + Geology	3014.8	3	1.12	0.182
3	Geology	3015.7	2	2.02	0.116
4	MAP + Mound density	3016.3	3	2.64	0.085
5	Geology + Mound density	3017.1	3	3.45	0.057
6	Mound density	3017.3	2	3.62	0.052
7	Intercept	3017.4	1	3.73	0.049
8	MAP + Geology + Mound density	3018.1	4	4.42	0.035

a) **b)**

Appendix 4, Figure A2: Conditional plot showing how mean annual precipitation (MAP) and fire return period interact to affect termite mound densities. Plots are be read from left to right, bottom to top, starting in the bottom left hand corner and ascending with MAP. On each panel, a linear model is added to aid visual interpretation.