Supplementary Table 1. Correlations are carried out using the Prais-Winsten regression method (Hammer et al. 2001). Values in bold are significant after a Bonferroni correction (p<0.0009). The Breusch-Pagan test for heteroskedasticity, i.e. non-stationary variance of residuals, indicated that in most cases homoskedasticity could not be rejected. Exceptions in which homoskedasticity was rejected at the 5% level are Poaceae percentages vs summer LIG, Podocarpaceae and Stoebe-Elytropappus type percentages vs winter LIG, Anthospermum and Stoebe-Elytropappus type percentages vs sea-level. The residuals of all correlations failed the Durbin-Watson test for no positive auto-correlation. (see also reference manual for PAST vs 4: https://www.nhm.uio.no/english/research/infrastructure/past/downloads/past4manual.pdf)

<table>
<thead>
<tr>
<th>Taxon</th>
<th>pollen concentrations against micro-charcoal concentration</th>
<th>pollen percentages against SH summer latitudinal insolation gradient</th>
<th>pollen percentages against SH winter latitudinal insolation gradient</th>
<th>pollen percentages against modelled global sea-level after Bintanja et al., 2005</th>
<th>pollen percentages against global stable oxygen stack (LR04)</th>
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<tbody>
<tr>
<td></td>
<td>r</td>
<td>p</td>
<td>residual p</td>
<td>r</td>
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