

Ant Climate Project

Path analysis - TMPsd and PREavg in the same model

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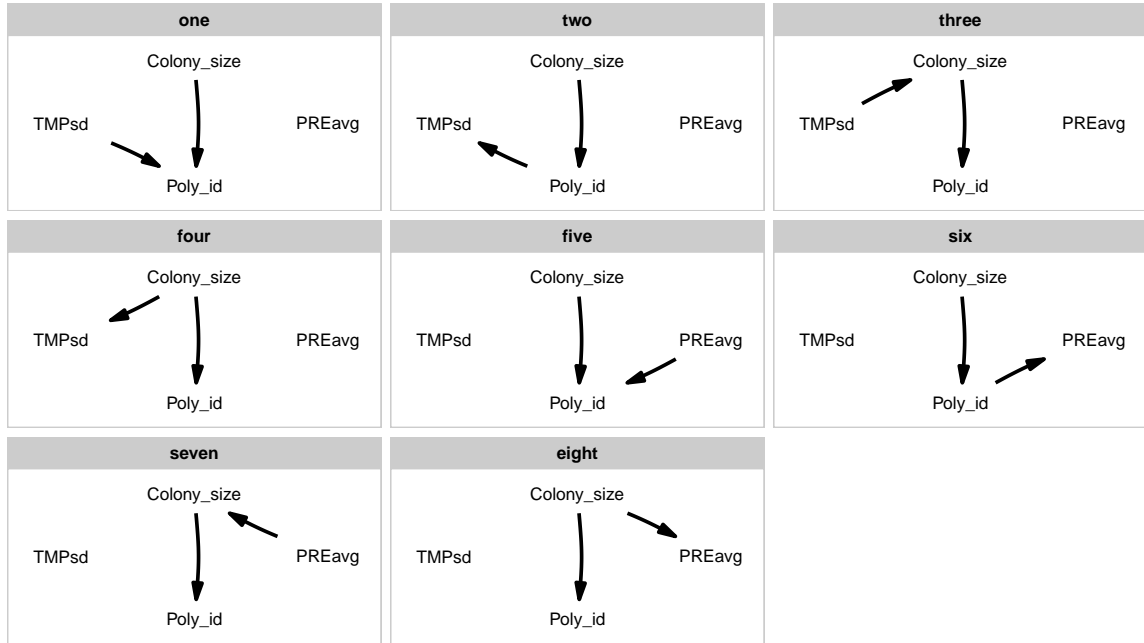
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Read in the ant data and prepare the variables for path analysis. There are 474 species for which data is available for colony size and climatic variables, excluding special ants.

1 Create alternative causal models

We divide the path analysis into two analyses: (i) Analysis with only the temperature climatic variable (TMPsd) and (ii) Analysis with only the rainfall climatic variable (PREavg). This is because path analysis would not accept having more than one climatic predictor in the analysis because the linear models produced had highly significant relationships between the multiple climatic predictors being analysed. The potential model set is reduced to just two models for each analysis.



2 Path analysis

Table 1: NCuniform stem path analysis model selection summary table

model	k	q	C	p	CICc	CICc difference	l	w
eight	4	6	78.89	0	91.07	0.00	1.00	0.43
six	4	6	80.11	0	92.29	1.22	0.54	0.24

Table 2: NCuniform crown path analysis model selection summary table

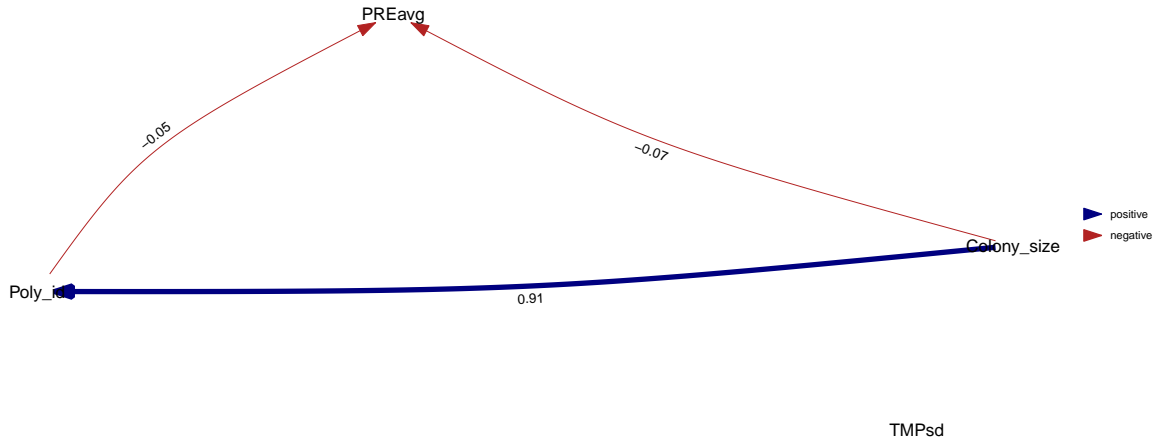
model	k	q	C	p	CICc	CICc difference	l	w
eight	4	6	80.82	0	93.00	0.00	1.00	0.35
five	4	6	81.01	0	93.19	0.19	0.91	0.31
one	4	6	81.75	0	93.93	0.92	0.63	0.22

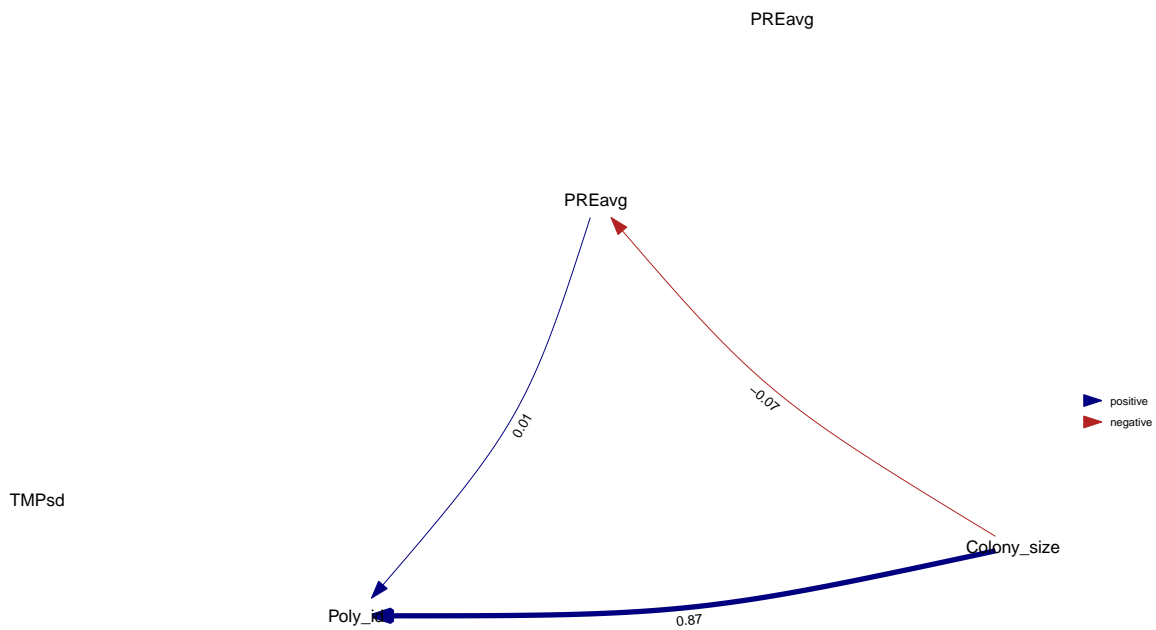
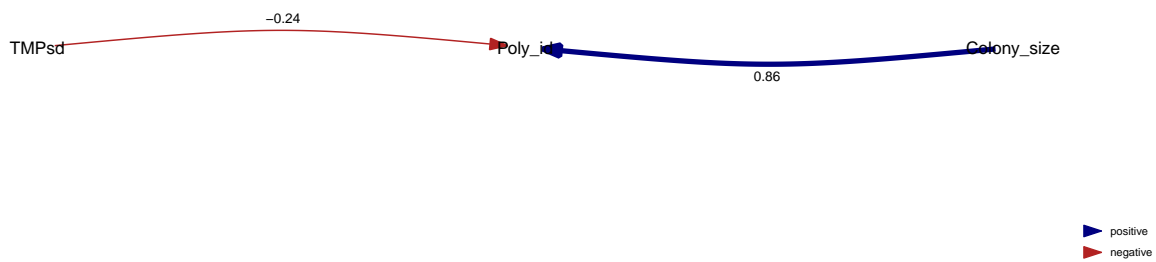
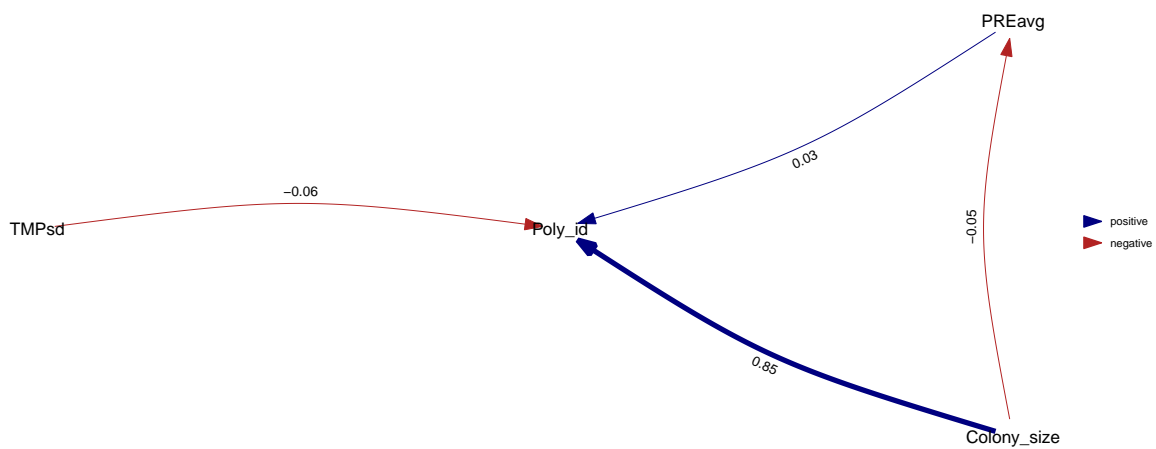
Table 3: FBD stem path analysis model selection summary table

model	k	q	C	p	CICc	CICc difference	l	w
one	4	6	78.69	0	90.87	0	1	0.76

Table 4: FBD crown path analysis model selection summary table

model	k	q	C	p	CICc	CICc difference	l	w
eight	4	6	79.80	0	91.98	0.00	1.00	0.44
five	4	6	81.21	0	93.39	1.41	0.49	0.21





2.0.1 Estimate confidence intervals for path coefficients