

Supplementary File 1: Phylogenetic Bayesian regression models on individual lateralization parameters

Abbreviations:

Est. Error: Estimate error

l-95% CI: lower limit of 95% credible interval

u-95% CI: upper limit of 95% credible interval

Rhat: Potential scale reduction factor

Bulk_ESS: bulk effective sample size

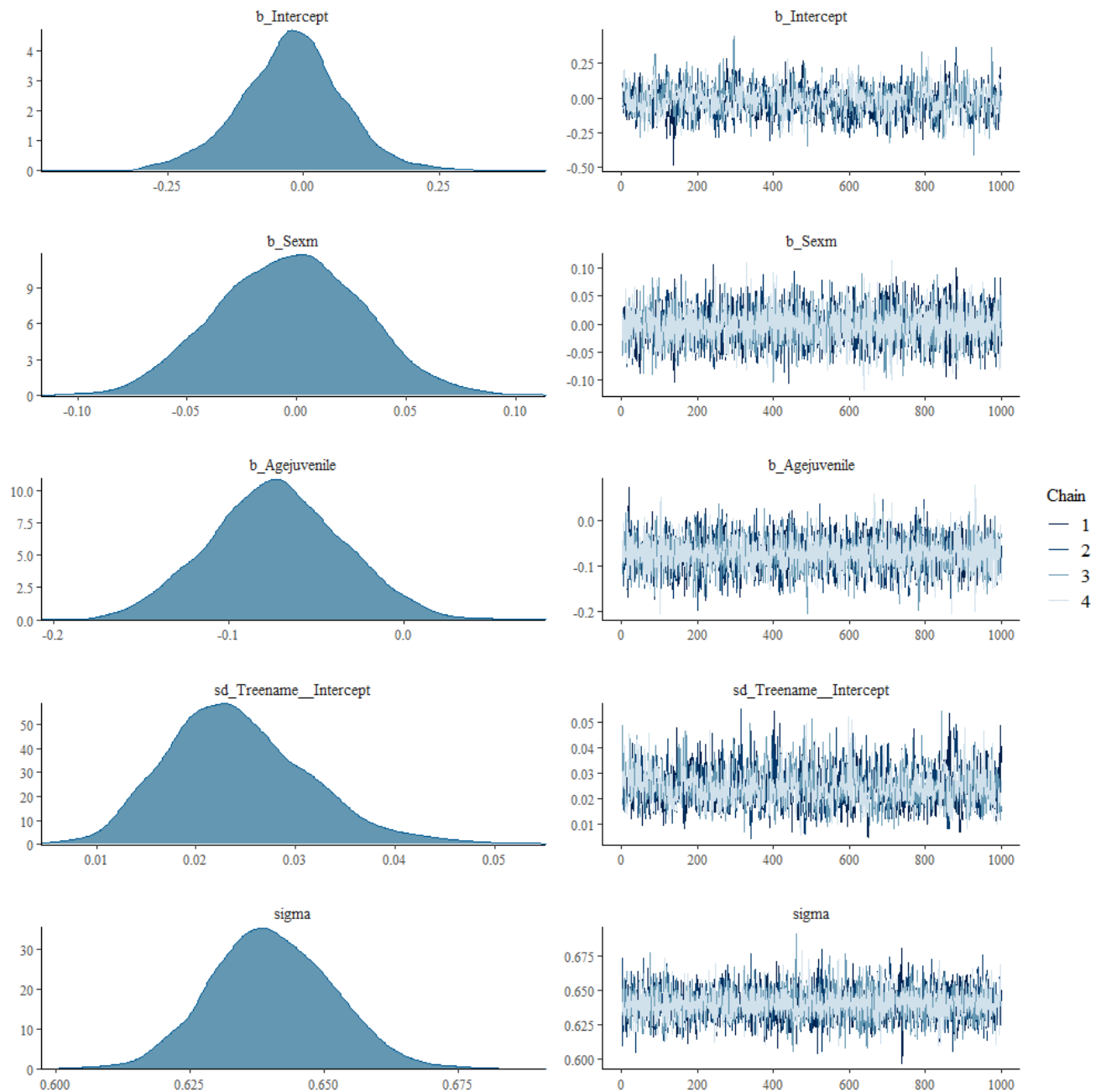
Tail_ESS: tail effective sample size

Notable effects were assumed when the model's 95% credible intervals of intercept and respective regression coefficients did not overlap with zero (marked in bold).

Figures visualize estimates for individual predictors on the left, and the number of chains and performed iterations on the right.

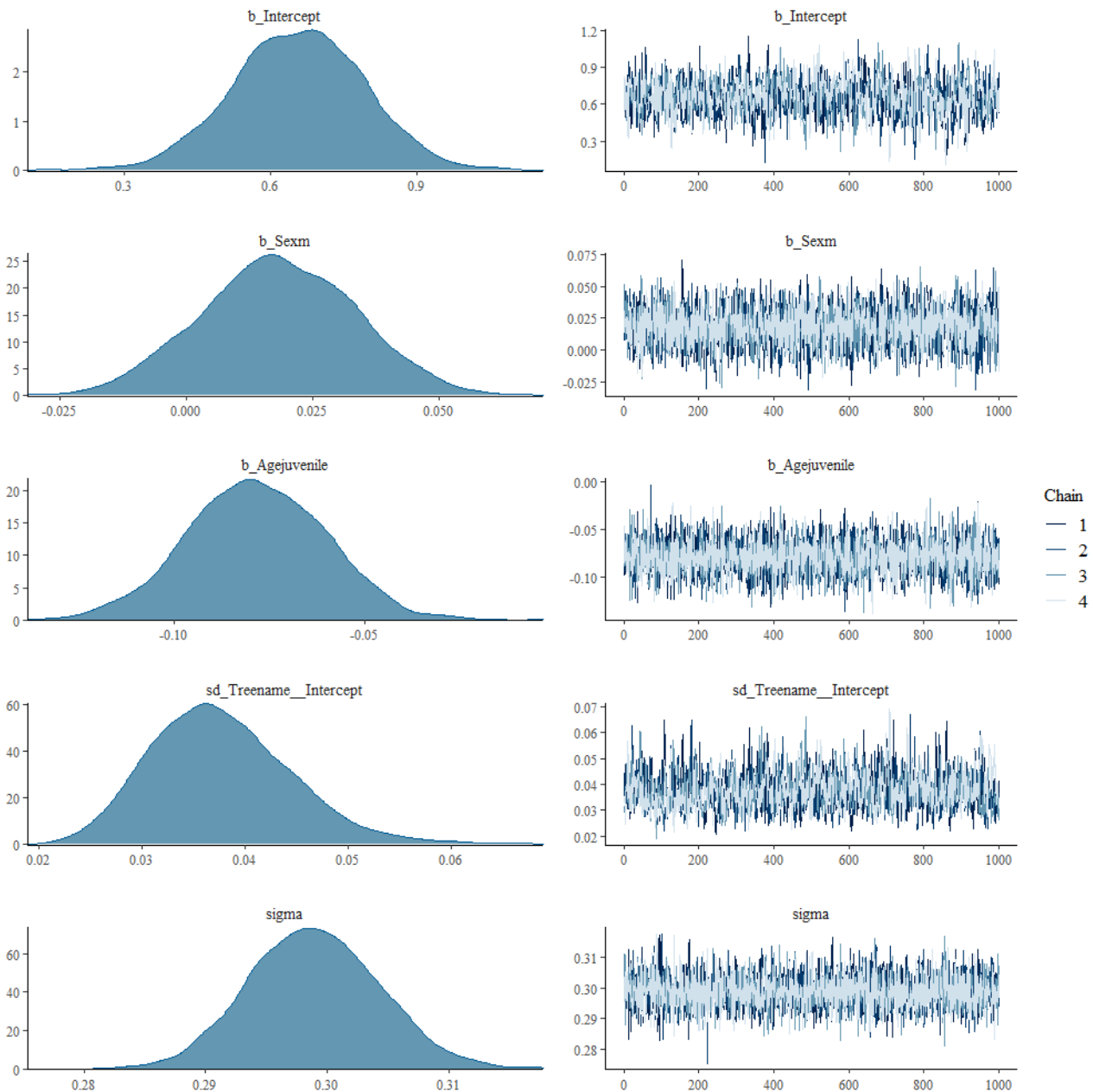
Model 1 (Lateralization direction, total sample)

Group-level effects							
	Estimate	Est. Error	l-95% CI	u-95% CI	Rhat	Bulk_ESS	Tail_ESS
sd(Intercept)	0.02	0.01	0.01	0.04	1.00	1546	1767
Population-level effects							
Intercept	-0.02	0.10	-0.22	0.17	1.00	1250	1565
Sex:male	0.00	0.03	-0.07	0.06	1.00	6468	2989
Age:subadult	-0.07	0.04	-0.15	0.00	1.00	7117	2717



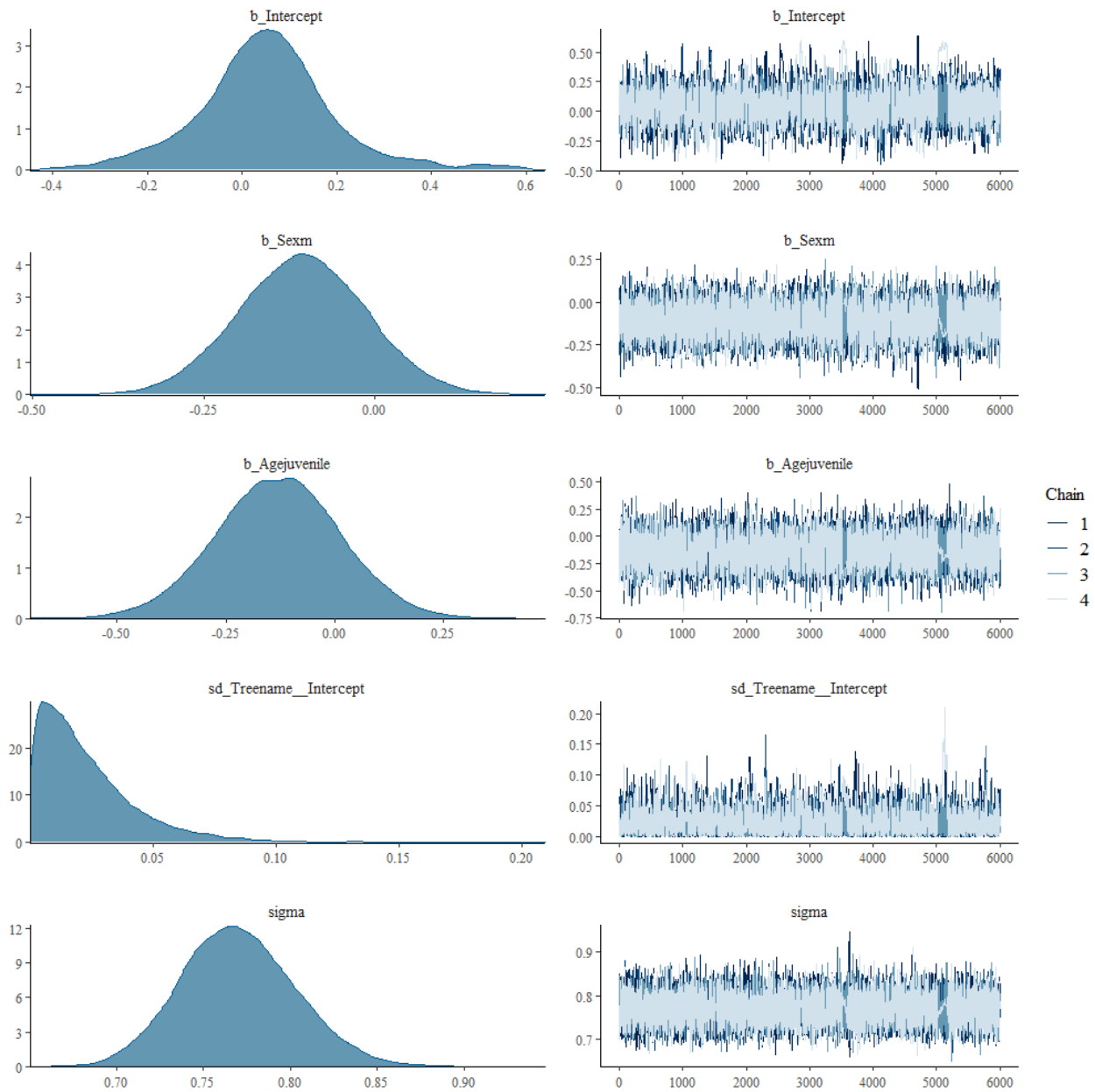
Model 2 (Lateralization strength, total sample)

Group-level effects							
	Estimate	Est. Error	l-95% CI	u-95% CI	Rhat	Bulk_ESS	Tail_ESS
sd(Intercept)	0.04	0.01	0.03	0.05	1.01	839	1612
Population-level effects							
Intercept	0.66	0.14	0.39	0.92	1.00	905	1637
Sex:male	0.02	0.02	-0.01	0.05	1.00	4124	2713
Age:subadult	-0.08	0.02	-0.11	-0.04	1.00	5020	3121



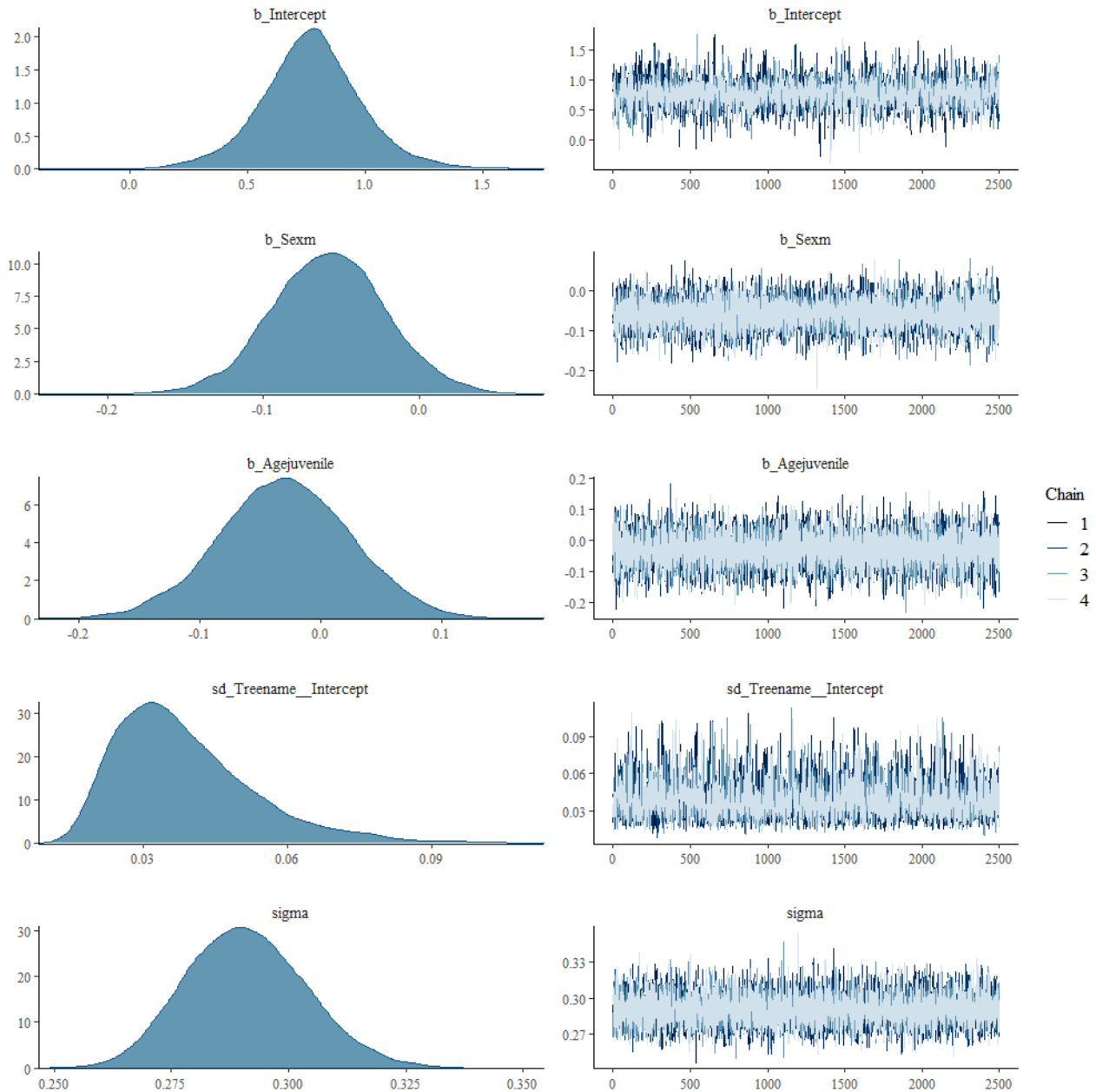
Model 3 (Lateralization direction, Platyrrhini)

Group-level effects							
	Estimate	Est. Error	l-95% CI	u-95% CI	Rhat	Bulk_ESS	Tail_ESS
sd(Intercept)	0.02	0.02	0	0.08	1.00	2195	1280
Population-level effects							
Intercept	0.05	0.15	-0.25	0.39	1.00	1570	706
Sex:male	-0.11	0.09	-0.29	0.07	1.00	10916	9686
Age:subadult	-0.13	0.14	-0.41	0.15	1.00	10198	7127



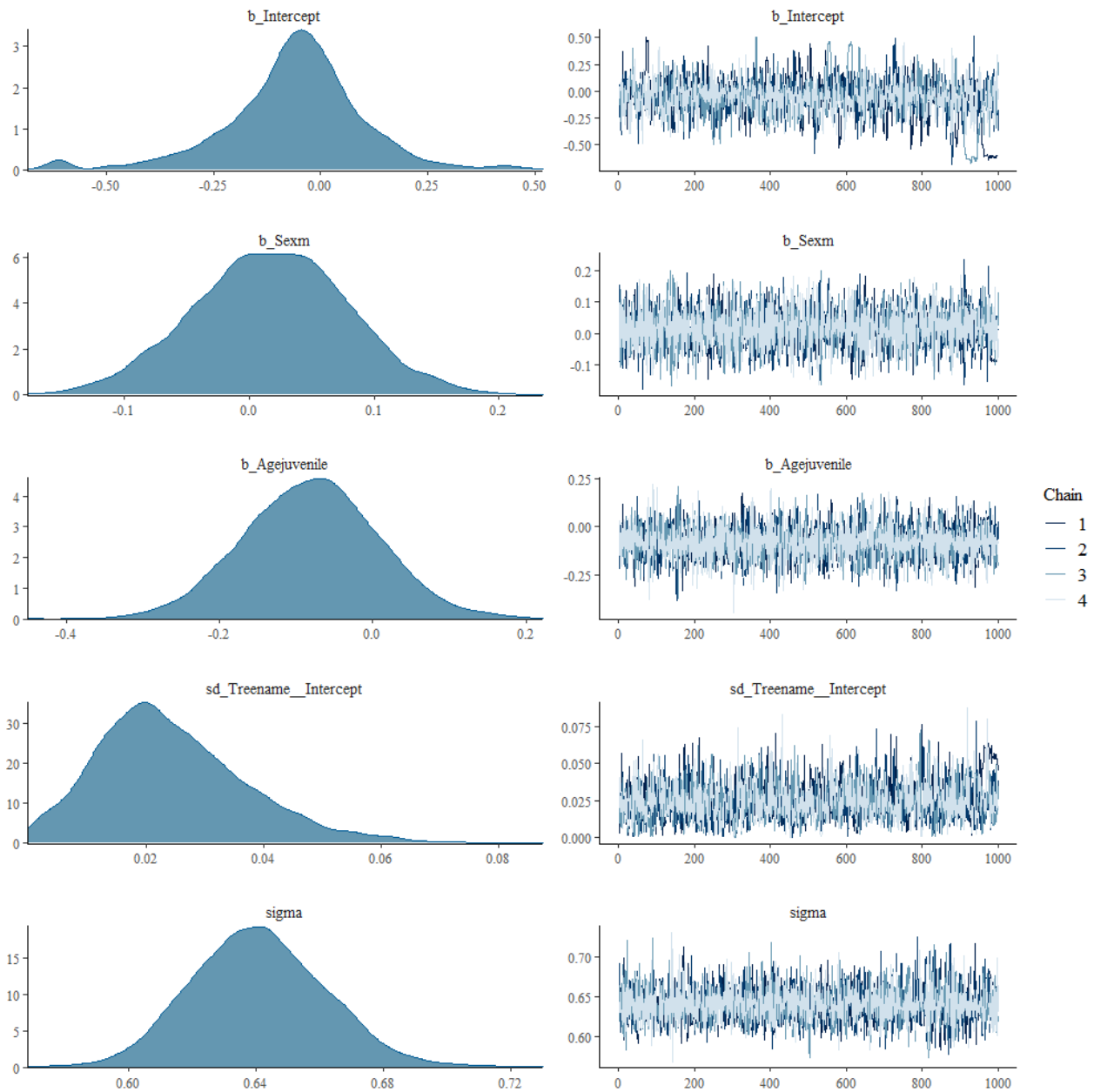
Model 4 (Lateralization strength, Platyrrhini)

Group-level effects							
	Estimate	Est. Error	l-95% CI	u-95% CI	Rhat	Bulk_ESS	Tail_ESS
sd(Intercept)	0.04	0.01	0.02	0.08	1.00	2763	3898
Population-level effects							
Intercept	0.77	0.22	0.32	1.23	1.00	3148	3346
Sex:male	-0.06	0.04	-0.13	0.01	1.00	13133	6919
Age:subadult	-0.03	0.05	-0.14	0.08	1.00	13311	6479



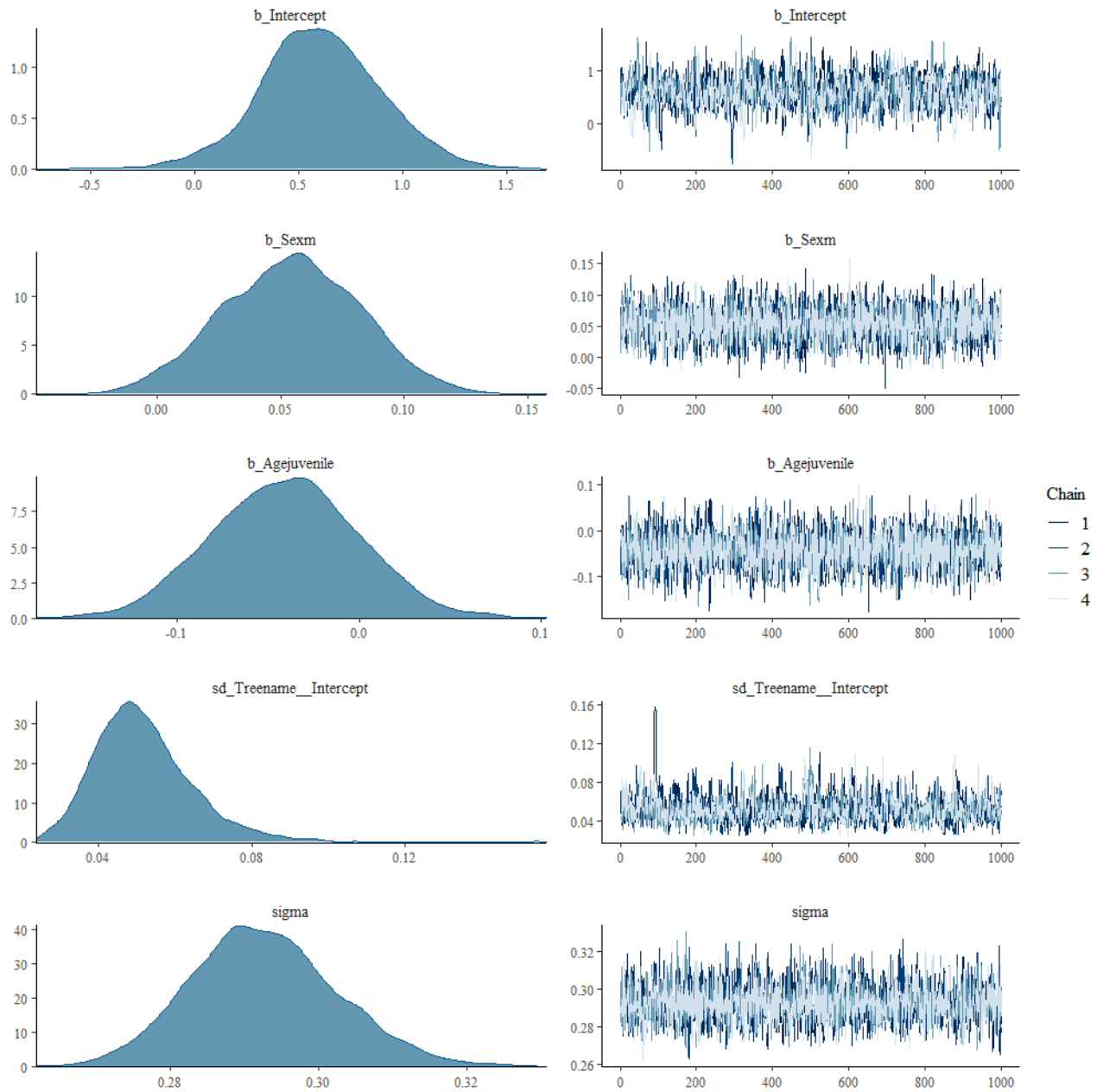
Model 5 (Lateralization direction, Cercopithecoidea)

Group-level effects							
	Estimate	Est. Error	l-95% CI	u-95% CI	Rhat	Bulk_ESS	Tail_ESS
sd(Intercept)	0.02	0.01	0.09	0.05	1.01	640	419
Population-level effects							
Intercept	-0.06	0.17	-0.48	0.27	1.01	541	194
Sex:male	0.02	0.06	-0.10	0.14	1.00	3062	1473
Age:subadult	-0.08	0.09	-0.25	0.09	1.00	3388	2618



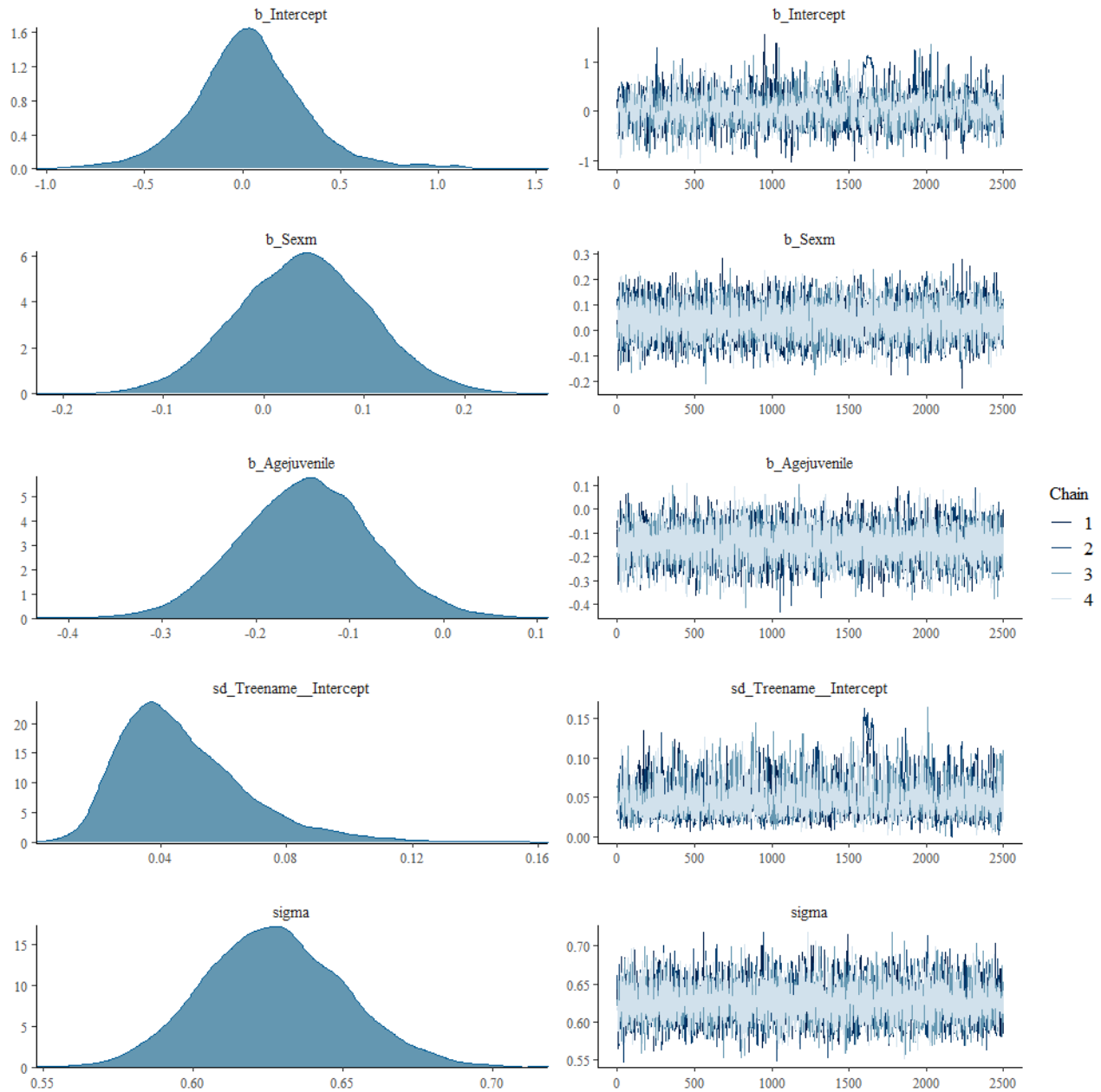
Model 6 (Lateralization strength, Cercopithecoidea)

Group-level effects							
	Estimate	Est. Error	l-95% CI	u-95% CI	Rhat	Bulk_ESS	Tail_ESS
sd(Intercept)	0.05	0.01	0.03	0.08	1.01	772	1284
Population-level effects							
Intercept	0.60	0.30	0	1.20	1.00	1060	1406
Sex:male	0.05	0.03	0	0.11	1.00	3981	2986
Age:subadult	-0.04	0.04	-0.12	0.04	1.00	4070	3171



Model 7 (Lateralization direction, Hominoidea)

Group-level effects							
	Estimate	Est. Error	l-95% CI	u-95% CI	Rhat	Bulk_ESS	Tail_ESS
sd(Intercept)	0.05	0.02	0.02	0.10	1.00	1862	908
Population-level effects							
Intercept	0.04	0.30	-0.55	0.70	1.00	1806	850
Sex:male	0.04	0.07	-0.09	0.17	1.00	9879	7468
Age:subadult	-0.15	0.07	-0.28	-0.01	1.00	8675	7153



Model 8 (Lateralization strength, Hominoidea)

Group-level effects							
	Estimate	Est. Error	l-95% CI	u-95% CI	Rhat	Bulk_ESS	Tail_ESS
sd(Intercept)	0.03	0.02	0.00	0.07	1.00	1082	903
Population-level effects							
Intercept	0.56	0.16	0.17	0.88	1.01	754	240
Sex:male	0.03	0.03	-0.03	0.10	1.00	5377	8507
Age:subadult	-0.09	0.04	-0.16	-0.02	1.00	3684	5352

