

Table S3: AIC scores and weights, and model specific parameters for models fitted to mandible and premaxilla shape data while accounting for measurement error.

Morphological trait		model	AIC	Δ AIC	Weights	sigma sq	alpha
Mandible	warps 1	OU	-887.77	0.00	0.44	0.00	0.03
		ACDC	-887.77	0.00	0.44	0.00	0.05
		BM	-885.27	2.50	0.13	0.00	0.00
	warps 2	OU	-997.93	0.00	0.70	0.00	0.09
		ACDC	-996.23	1.70	0.30	0.00	0.10
		BM	-976.99	20.94	0.00	0.00	0.00
	warps 3	BM	-778.91	0.00	0.46	0.00	0.00
		OU	-777.86	1.05	0.27	0.00	0.01
		ACDC	-777.86	1.05	0.27	0.00	0.02
Premaxilla	warps 1	OU	-713.19	0.00	0.36	0.00	0.02
		ACDC	-713.19	0.00	0.36	0.00	0.04
		BM	-712.65	0.54	0.28	0.00	0.00
	warps 2	BM	-598.25	0.00	0.39	0.00	0.00
		OU	-597.78	0.47	0.31	0.00	0.01
		ACDC	-597.78	0.47	0.31	0.00	0.02
	warps 3	OU	-630.09	0.00	0.34	0.00	0.02
		ACDC	-630.09	0.00	0.34	0.00	0.03
		BM	-629.97	0.12	0.32	0.00	0.00

The models are ranked from best to worst, according to AIC scores and Akaike weights (wtAIC). Δ AIC scores indicate the difference between the candidate model and the best-fitting model. Alpha is used as a generic parameter indicator. The actual parameter is model specific. In the case of OU model, alpha is the rubber band parameter of the OU process. Concerning the ACDC model, alpha is the exponential rate change parameter. Positive values indicate accelerating rates through time, while negative values indicate declining rates. Sigma sq is the Brownian rate parameter.