

Appendix 4. Absolute sizes (in millimeter), size difference in ratios and branch lengths (BL) for David and Goliath comparison pairs. Log likelihoods are given for the local clock (LC) and free-rate (FR) models of sequence evolution and data sets with significant rate variation are indicated with an asterisk. Genes were chosen to generate the greatest order of magnitude in size difference between species. References in parentheses indicate sources of body size data. Size ratios were calculated from appropriate compound measurements where dimensions were given and from geometric means where ranges were given.

Data set	Gene	Goliath (big) species	Size, mm	David (little) species	Size, mm	Size ratio	Outgroup	LC	FR	Big BL	Little BL
Species level comparisons											
Lepidoptera	ND5	<i>Troides hypolitus</i> (1)	875	<i>Artopoetes pryeri</i> (1)	253	3	<i>Zerynthia rumina</i>	-1474.0	-1467.1*	0.24055	0.11692
		<i>Idea leuconoe</i> (1)	610	<i>Zizina otis</i> (1)	105	6	<i>Limenitis populi</i>	-1240.4	-1237.2*	0.24358	0.13756
Arachnida	16S	<i>Dysdera insulana</i> (2)	253.4	<i>Dysdera esquiveli</i> (3)	48.4	5	<i>Harpactea hombergii</i>	-830.4	-830.2	0.04130	0.05421
		<i>Tegenaria saeva</i> (4)	132.7	<i>Neon nelli</i> (5)	26.3	5	<i>Lepthyphantes minutus</i>	-1525.5	-1525.2	0.24451	0.33018
Cephalopoda	16S	<i>Loligo forbesi</i> (6)	900	<i>Octopus wolffi</i> (6)	15	60	<i>Eledone massyae</i>	-871.3	-870.8	0.18087	0.04552
		<i>Architeuthis sp.</i> (6)	6000	<i>Nototodarus hawaiiensis</i> (6)	16	375	<i>Ctenopteryx sicula</i>	-693.3	-692.6	0.04353	0.05451
Gastropoda	28S	<i>Buccinum undatum</i> (7)	110*68	<i>Carychium tridentatum</i> (8)	1.8-2*0.8-0.9	962	<i>Limax maximus</i>	-1301.3	-1279.7*	0.86709	0.04615
		<i>Aplysia punctata</i> (7)	<300	<i>Acteon tornatilis</i> (7)	<25	12	<i>Lymnaea stagnalis</i>	-1916.8	-1908.9*	0.07176	0.28169
Echinodermata	28S	<i>Marthasterias glacialis</i> (9)	<700	<i>Asterina gibbosa</i> (9)	<50	12	<i>Henricia sanguinolenta</i>	-503.2	-503.2	0.00903	0.02828
Platyhelminthes	18S	<i>Taenia solium</i> (10)	4500	<i>Pseudodactylogyrus bini</i> (10)	1.4	3214	<i>Polycelis nigra</i>	-3805.5	-3798.3*	0.08333	0.18782
Family level comparisons											
Hymenoptera	28S	Peleciniidae (11)	42.4	Mymaridae (11)	0.6	71	Dryinidae	-623.7	-618.8*	0.05847	0.18877
Bivalvia	18S	Pinnidae (12)	240.4*111	Terenidinidae (12)	9*7.8	382	Matricidae	-3471.7	-3462.0*	0.02019	0.10519
Annelida	18S	Glyceridae (13)	295	Protodrilidae (13)	7	42	Chaetopteridae	-3066.9	-3042.2*	0.03099	0.10014
Monogenea	28S	Neothoracocotylidae	12	Diplectanidae (14)	0.72	17	Allodiscocotylidae	-2214.1	-2130.3*	0.04157	1.01142

Data set	Gene	Goliath (big) species	Size, mm	David (little) species	Size, mm	Size ratio	Outgroup	LC	FR	Big BL	Little BL
		(14)									

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