



Fig. 4 Chronogram for Bilateria based on Bayesian tree of Dunn et al. (2008) under penalized likelihood and the palaeontological calibrations listed in Table 1

Table 1 Palaeontological data used for calibrating the bilaterian chronogram in Fig. 4

Label	Clade	Type	Date [My]	Key fossil(s)
A	Bilateria	max	635	Marinoan deglaciation
A	Bilateria	min	555	trace fossils
B	Mollusca	min	528	<i>Latouchella</i>
C	Arthropoda_Onychophora	min	528	<i>Rusophycus</i>
D	Brachiopoda_Nemertea	min	525	paterinids
E	Ecdysozoa	min	525	<i>Markuelia</i>
F	Bivalvia_Gastropoda	min	521	<i>Fordilla</i> , <i>Bulluniella</i>
G	Craniata_Urochordata	min	520	<i>Haikouichthys</i> , <i>Mylokunmingia</i> , <i>Zhangjianichthys</i>
H	Priapulida_Kinorhyncha	min	520	<i>Xiaoheiqingella</i>
I	Myriapoda_Chelicerata s.l.	min	520	<i>Haikoucaris</i>
J	Annelida	min	520	<i>Phragmochaeta</i> , <i>Archaeogolfingia</i> , <i>Cambrospinculus</i>
K	Echinodermata_Hemichordata	min	519	helicoplacoids
L	Nematoida_Tardigrada	min	508	Kuonamka Formation tardigrade
M	Pycnogonida_Euchelicerata	min	500	<i>Cambropycnogon</i>
N	Branchiopoda_Hexapoda	min	500	<i>Rehbachella</i>
O	Polyplacophora_Cephalopoda_Caudofoveata	min	492	<i>Matthevia</i>
P	Cephalopoda_Caudofoveata	min	489	plectronocerids
Q	Echinoidea_Asteroidea	min	480	<i>Petraster</i>
R	Xiphosura_Arachnida	min	478.6	Lower Fezouata Formation xiphosuran
S	Nematoda_Nematomorpha	min	408	<i>Palaeonema</i>
T	Arachnida	min	408	Rhynie Chert prostigmatan mites
U	Synapsida_Sauropsida	min	312	<i>Hylonomus</i>
V	Echiura_Capitella	min	307	<i>Coprinoscolex</i>