

**Table S3** Composition and skewness of mitochondrial PCGs in Polyneoptera.

<i>Reticulitermes santonensis</i>	63.0	0.186	-0.266	67.1	-0.532	0.353	64.5	-0.099	-0.045
<i>Reticulitermes hageni</i>	62.5	0.186	-0.261	65.7	-0.534	0.334	63.7	-0.099	-0.044
<i>Reticulitermes virginicus</i>	63.0	0.187	-0.268	67.4	-0.514	0.347	64.7	-0.094	-0.050
<i>Reticulitermes flavipes</i>	63.1	0.188	-0.269	67.3	-0.521	0.349	64.7	-0.096	0.303
Orthoptera									
<i>Deracantha onos</i>	65.9	-0.093	-0.266	70.7	-0.227	0.319	67.7	-0.145	-0.068
<i>Troglophilus neglectus</i>	70.6	-0.121	-0.206	75.5	-0.213	0.285	72.5	-0.158	-0.039
<i>Anabrus simplex</i>	65.7	-0.114	-0.253	70.7	-0.255	0.318	67.6	-0.170	-0.054
<i>Gampsocleis gratiosa</i>	61.1	-0.074	-0.292	67.5	-0.283	0.334	63.6	-0.159	-0.077
<i>Ruspolia dubia</i>	68.5	-0.121	-0.202	72.2	-0.233	0.297	69.9	-0.166	-0.024
<i>Myrmecophilus manni</i>	67.7	-0.057	-0.292	71.0	-0.259	0.330	69.0	-0.138	-0.067
<i>Gryllotalpa orientalis</i>	67.9	-0.099	-0.277	71.8	-0.254	0.392	69.4	-0.160	-0.043
<i>Teleogryllus emma</i>	71.1	-0.033	-0.208	74.8	-0.314	0.358	72.6	-0.145	-0.007
<i>Gryllotalpa pluvialis</i>	69.4	-0.104	-0.273	73.9	-0.240	0.418	71.2	-0.158	-0.031
<i>Elimaea cheni</i>	69.9	-0.119	-0.213	73.9	-0.202	-0.351	71.5	-0.152	-0.013
<i>Acrida willemsei</i>	73.9	0.044	-0.114	77.7	-0.370	0.218	75.4	-0.120	0.002
<i>Schistocerca gregaria</i>	70.4	0.017	-0.141	75.1	-0.373	0.219	72.2	-0.139	-0.018
<i>Gomphocerus licenti</i>	73.4	-0.006	-0.091	75.6	-0.382	0.066	74.3	-0.153	0.017
<i>Arcyptera coreana</i>	74.4	0.002	-0.093	78.0	-0.329	0.172	75.8	-0.129	0.000
<i>Chorthippus chinensis</i>	73.8	0.008	-0.117	76.8	-0.358	0.200	74.9	-0.137	-0.004
<i>Phlaeoba albonema</i>	72.0	0.025	-0.118	75.9	-0.370	0.234	73.5	-0.132	0.005
<i>Oxya chinensis</i>	73.7	-0.022	-0.083	77.5	-0.346	0.197	75.2	-0.150	0.014
<i>Calliptamus italicus</i>	70.8	0.004	-0.131	75.0	-0.356	0.221	72.4	-0.139	-0.008
<i>Prumna arctica</i>	73.4	-0.002	-0.112	78.0	-0.347	0.163	75.2	-0.139	-0.018
<i>Traulia szetschuanensis</i>	72.4	0.011	-0.117	76.3	-0.359	0.219	73.9	-0.135	0.000
<i>Ognevia longipennis</i>	73.8	-0.019	-0.101	77.6	-0.330	0.219	75.2	-0.142	0.010
<i>Oedaleus decorus asiaticus</i>	72.2	0.093	-0.172	76.6	-0.387	0.198	73.9	-0.098	-0.041
<i>Gastrimargus marmoratus</i>	73.4	-0.006	-0.091	75.6	-0.382	0.204	73.9	-0.153	0.017
<i>Locusta migratoria migratoria</i>	72.6	0.065	-0.167	76.7	-0.385	0.174	74.2	-0.114	-0.045
<i>Locusta migratoria</i>	72.6	0.068	-0.168	76.5	-0.389	0.199	74.1	-0.113	-0.040

<i>Locusta migratoria tibetensis</i>	72.7	0.065	-0.168	76.6	-0.381	0.192	74.2	-0.112	-0.043
<i>Locusta migratoria manilensis</i>	72.6	0.067	-0.166	76.5	-0.383	0.195	74.1	-0.112	-0.040
<i>Atractomorpha sinensis</i>	72.6	0.026	-0.129	75.1	-0.393	0.244	73.6	-0.137	0.005
<i>Gomphocerus sibiricus</i>	72.8	-0.043	-0.091	76.6	-0.363	0.204	74.3	-0.146	0.012
<i>Acrida cinerea</i>	73.8	0.047	-0.111	77.7	-0.368	0.205	75.3	-0.118	-0.001
<i>Thrinchus schrenkii</i>	69.1	0.025	-0.187	73.3	-0.391	0.261	70.7	-0.141	-0.030
<i>Physemacris variolosa</i>	71.6	0.067	-0.254	75.9	-0.325	0.218	73.3	-0.089	-0.090
<i>Xyleus modestus</i>	70.0	0.043	-0.160	73.3	-0.412	0.274	71.3	-0.137	-0.005
<i>Mekongiella xizangensis</i>	71.7	0.032	-0.191	74.5	-0.364	0.252	72.8	-0.123	-0.033
<i>Mekongiana xiangchengensis</i>	72.7	0.018	-0.148	75.8	-0.360	0.251	73.9	-0.131	-0.006
<i>Euchorthippus fusigeniculatus</i>	73.1	0.003	-0.101	76.5	-0.348	0.206	74.4	-0.135	0.007
<i>Gomphocerippus rufus</i>	72.0	0.009	-0.121	76.2	-0.365	0.217	73.7	-0.139	-0.004
<i>Ellipes minuta</i>	63.6	-0.101	-0.171	66.9	-0.207	0.286	64.9	-0.143	-0.084