

Table S1. Litter types and initial quality characteristics of the litters at the start of the experiment (October 2016). Values are the mean $\pm$ SE ($n = 3$).

Litter types	TC (g/kg)	TN (g/kg)	TS (g/kg)	C/N ratio	C/S ratio
<i>Quercus mongolica</i> (QM)	454.78 $\pm$ 0.34b	8.22 $\pm$ 0.07c	0.53 $\pm$ 0.01c	55.33 $\pm$ 0.43a	857.64 $\pm$ 9.60a
<i>Acer pseudosieboldianum</i> (AP)	448.26 $\pm$ 0.27c	8.37 $\pm$ 0.10c	0.52 $\pm$ 0.01c	53.57 $\pm$ 0.60a	853.00 $\pm$ 14.31a
<i>Juglans mandshurica</i> (JM)	469.34 $\pm$ 0.31a	16.24 $\pm$ 0.08a	0.96 $\pm$ 0.01a	28.90 $\pm$ 0.13c	486.66 $\pm$ 3.92b
<i>Ulmus laciniata</i> (UL)	393.81 $\pm$ 2.20d	14.25 $\pm$ 0.14b	0.75 $\pm$ 0.02b	27.64 $\pm$ 0.43c	525.37 $\pm$ 13.57b

Different lowercase letters within the same column indicate a significant difference between litter types for given variable at $p < 0.05$.

Table S2. The abundance (Ind. g⁻¹ dry litter) of the soil faunal communities in all litter types over the 12 month experiment of Longwan National Nature Reserve. Values are means of different plots with total three sampling periods.

Soil fauna	<i>Q. mongolica</i> (QM)				<i>A. pseudosieboldianum</i> (AP)				<i>J. mandshurica</i> (JM)				<i>U. laciniata</i> (UL)			
	Home		Away		Home		Away		Home		Away		Home		Away	
	Ind.	%	Ind.	%	Ind.	%	Ind.	%	Ind.	%	Ind.	%	Ind.	%	Ind.	%
Fungivorous																
Onychiuridae							0.12	0.78	4.00	22.45			0.09	0.74		
Tomoceridae	3.49	26.55	1.39	12.30	4.73	21.43	5.62	35.64	3.13	17.58	4.03	30.45	2.02	16.86	7.79	33.91
Entomobryidae	5.30	40.32	7.65	67.62	10.65	48.26	5.40	34.25	2.83	15.89	2.93	22.09	4.72	39.46	2.96	12.89
Isotomidae	0.32	2.40	0.16	1.46	0.37	1.68	0.79	4.99	1.36	7.66	0.97	7.34	0.20	1.71	2.10	9.14
Sminthuridae	1.00	7.59	0.04	0.34	2.22	10.08	0.24	1.51	1.01	5.67	0.95	7.14	0.63	5.29	2.00	8.72
Hypogastruridae	0.04	0.29			0.04	0.18	0.04	0.27	0.08	0.45	0.10	0.72	0.14	1.17	0.15	0.63
Neanuridae							0.04	0.27	0.05	0.26			0.05	0.45	0.05	0.22
Poduridae							0.04	0.27	0.09	0.51						
Psocidae	0.08	0.62			0.38	1.72			0.23	1.32	0.47	3.54			0.09	0.40
Total	10.23	77.77	9.24	81.72	18.39	83.35	12.29	77.98	12.78	71.79	9.45	71.28	7.85	65.68	15.14	65.91
Richness	6		4		5		8		9		6		7		7	
Omnivorous																
Oribatida	1.70	12.93	1.40	12.34	2.39	10.83	1.96	12.41	2.19	12.28	1.91	14.45	2.01	16.78	3.62	15.75
Mesostigmata	0.24	1.83			0.29	1.31	0.41	2.61	1.34	7.52	0.31	2.33	0.50	4.21	1.57	6.84
Prostigmata	0.33	2.54	0.08	0.74	0.34	1.54	0.32	2.05	0.29	1.66	0.29	2.18	0.48	4.04	0.55	2.39
Forficulina	0.13	0.96			0.22	0.98					0.06	0.42				
Pseudoscorpionida									0.04	0.22						
Staphylinidae					0.08	0.36	0.04	0.25			0.08	0.63			0.07	0.32
Formicidae					0.04	0.20	0.17	1.07					0.05	0.38		
Total	2.4	18.26	1.48	13.08	3.36	15.22	2.9	18.39	3.86	21.68	2.65	20.01	3.04	25.41	5.81	25.3
Richness	4		2		6		5		4		5		4		4	
Carnivorous																
Araneae	0.26	1.94	0.50	4.46	0.24	1.07	0.41	2.60	0.73	4.09	0.44	3.30	0.31	2.61	0.56	2.42
Coccinellidae	0.09	0.71														
Lithobiidae	0.04	0.32			0.08	0.37	0.12	0.79	0.09	0.51	0.18	1.38	0.26	2.17	0.12	0.54
Carabidae			0.04	0.38					0.04	0.22			0.05	0.38		

Total	0.39	2.97	0.54	4.84	0.32	1.44	0.53	3.39	0.86	4.82	0.62	4.68	0.62	5.16	0.68	2.96
Richness	3		2		2		2		3		2		3		2	
Saprophagous																
Lumbricidae											0.06	0.42			0.05	0.22
Enchytraeidae	0.04	0.32							0.09	0.52					0.27	1.16
Juliformia			0.04	0.34			0.04	0.25			0.10	0.72			0.12	0.51
Muscidae larva	0.09	0.58							0.22	1.21	0.14	1.09	0.27	2.30	0.27	1.16
Staphylinidae larva											0.24	1.80	0.05	0.44	0.64	2.79
Total	0.13	0.9	0.04	0.34			0.04	0.25	0.31	1.73	0.54	4.03	0.32	2.74	1.35	5.84
Richness	2		1				1		2		4		2		5	
Phytophagous																
Limacidae														0.04	0.36	
Curculionidae														0.08	0.64	
Total														0.12	1.00	
Richness														2		
Total	13.15		11.31		22.07		15.76		17.80		13.25		11.96		22.97	
Richness	15		9		14		16	15	18		17		18		18	

Dominant groups (percentage of individual number > 10 %), common groups (1 % < percentage of individual number < 10 %), rare groups (0.1 % < percentage of individual number < 1 %)

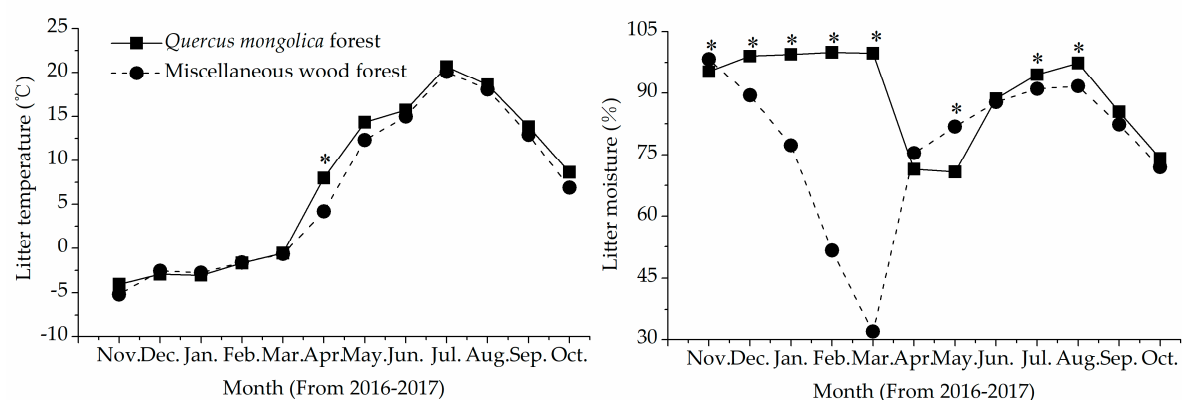


Figure S1. Litter temperature and moisture in *Quercus mongolica* forest and miscellaneous wood forest.