Table S1: Modified Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) indicating the number of studies considered at each step of the literature search.

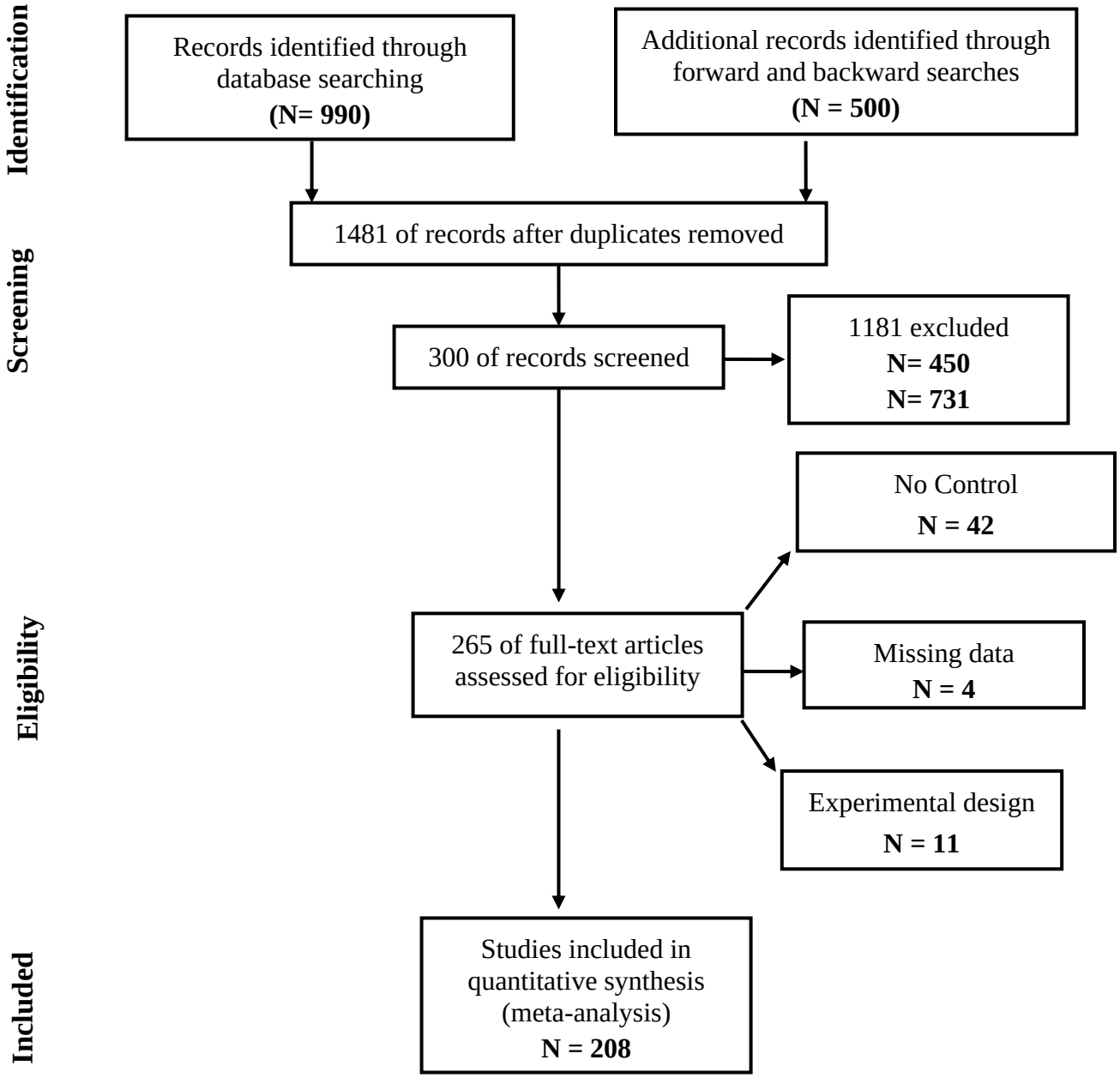

Table S2: Overall effect of fire on abundance, biomass, diversity, evenness and richness of all faunal groups and aboveground animals. Analyses were conducted using a mixed-effects model. Hedges'g values of less than 0.2 represent small effects, values between 0.2 and 0.5 represent moderate effects, with values greater than 0.5 suggesting large effects.

Response	estimate	se	p	ci.lb	ci.ub
Overall Community Response					
Abundance	-0.3175	0.0122	<.0001	-0.3415	-0.2936
Biomass	-0.3839	0.0266	<.0001	-0.4361	-0.3317
Diversity	-0.4228	0.0319	<.0001	-0.4853	-0.3604
Evenness	-0.2469	0.0356	<.0001	-0.3167	-0.1771
Richness	-0.2125	0.0248	<.0001	-0.2611	-0.1639
Amphibian					
Abundance	0.83	0.25	0.00	0.35	1.32
Richness	1.29	0.49	0.01	0.33	2.25
Small mammals					
Abundance	0.0323	0.0559	0.5637	-0.0773	0.1419
Richness	-0.5342	0.2988	0.0738	-1.1197	0.0514
Birds					
Abundance	0.38	0.12	0	0.15	0.62
Biomass	-0.7	0.45	0.12	-1.58	0.19
Diversity	0.16	0.34	0.64	-0.5	0.82
Richness	0.86	0.36	0.02	0.16	1.57
Arthropods - Aboveground					
Abundance	-0.12	0.02	<.0001	-0.16	-0.08
Biomass	0.03	0.13	0.7966	-0.22	0.29
Diversity	-0.08	0.06	0.1613	-0.2	0.03
Evenness	0.34	0.09	0.0002	0.16	0.51
Richness	0.17	0.04	<.0001	0.1	0.24
Reptiles					
Abundance	0.04	0.09	0.62	-0.13	0.22
Diversity	-0.43	0.52	0.41	-1.45	0.59
Richness	0.36	0.15	0.02	0.07	0.65
Molluscs					
Abundance	-0.68	0.1887	0.0003	-1.0498	-0.3102
Richness	-0.8763	0.2158	<.0001	-1.2993	-0.4533

Table S3: Overall effect of fire on abundance, biomass, diversity, evenness and richness of all faunal groups and belowground animals. Analyses were conducted using a mixed-effects model. Hedges'g values of less than 0.2 represent small effects, values between 0.2 and 0.5 represent moderate effects, with values greater than 0.5 suggesting large effects.

Response	estimate	se	p	ci.lb	ci.ub
Annelids					
Abundance	-0.92	0.24	0	-1.4	-0.44
Richness	-0.62	0.26	0.02	-1.13	-0.11
Fungi					
Abundance	-0.2897	0.0294	<.0001	-0.3472	-0.2321
Biomass	-0.3447	0.0591	<.0001	-0.4605	-0.2289
Diversity	-0.5796	0.0422	<.0001	-0.6623	-0.4969
Evenness	-0.2708	0.0423	<.0001	-0.3536	-0.1879
Richness	-0.5823	0.0429	<.0001	-0.6664	-0.4982
Arthropods					
Abundance	-0.54	0.02	<.0001	-0.58	-0.49
Diversity	-0.69	0.12	<.0001	-0.92	-0.45
Evenness	-1.01	0.12	<.0001	-1.25	-0.78
Richness	-0.85	0.08	<.0001	-1	-0.7
Microbes					
Abundance	0.1587	0.1245	0.2023	-0.0853	0.4027
Biomass	-0.4311	0.0327	<.0001	-0.4952	-0.3671
Diversity	0.1535	0.24	0.5225	-0.3169	0.6238
Evenness	-0.7925	0.6273	0.2065	-2.022	0.437
Richness	1.6378	0.3671	<.0001	0.9183	2.3573
Bacteria					
Abundance	-0.96	0.05	< 0001	-1.06	-0.86
Biomass	-0.34	0.09	0	-0.52	-0.16
Diversity	-0.44	0.19	0.02	-0.81	-0.07
Evenness	-0.45	0.18	0.01	-0.79	-0.1
Richness	-0.18	0.13	0.18	-0.44	0.08
Nematodes					
Abundance	-0.6995	0.05	<.0001	-0.7975	-0.6016
Biomass	0.6628	0.4608	0.1503	-0.2403	1.5659
Diversity	-1.2991	0.3689	0.0004	-2.0222	-0.576
Richness	-1.4303	0.4876	0.0034	-2.386	-0.4746

Table S4: Overall effect of fire by intensity and habitat on fauna. Analyses were conducted using a mixed-effects model. Hedges'g values of less than 0.2 represent small effects, values between 0.2 and 0.5 represent moderate effects, with values greater than 0.5 suggesting large effects.

Response	estimate	se	pval	ci.lb	ci.ub	
Microhabitat						
Aboveground	-0.0267	0.0151	0.0779	-0.0563	0.003	
Belowground	-0.4908	0.0118	<.0001	-0.514	-0.4676	
Fire intensity						
Light	-0.1207	0.0306	<.0001	-0.1806	-0.0608	
Moderate	-0.0143	0.042	0.7341	-0.0965	0.068	
Severe	-0.2731	0.0308	<.0001	-0.3335	-0.2127	
Fire types						
Prescribed	-0.3392	0.0147	<.0001	-0.3681	-0.3104	
Wildfire	-0.2988	0.012	<.0001	-0.3224	-0.2752	
Biomes						
Agriculture	-0.7569	0.1335	<.0001	-1.0187	-0.4952	Prescribed
Desert	-4.0618	0.4657	<.0001	-4.9746	-3.149	Prescribed
Forest	-0.4183	0.0206	<.0001	-0.4587	-0.3779	Prescribed
Grassland	-0.1605	0.0304	<.0001	-0.2202	-0.1009	Prescribed
Plantation	-0.4867	0.2733	0.0749	-1.0223	0.0489	Prescribed
Savannah	-0.5053	0.043	<.0001	-0.5897	-0.421	Prescribed
Shrubland	-0.1253	0.042	0.0028	-0.2076	-0.043	Prescribed
Tundra	0.4889	0.4539	0.2814	-0.4006	1.3784	Prescribed
Desert	-0.0777	0.1455	0.5931	-0.3629	0.2074	Wildfire
Forest	-0.4935	0.015	<.0001	-0.523	-0.4641	Wildfire
Grassland	0.0805	0.0289	0.0053	0.0239	0.1371	Wildfire
Savannah	-0.2177	0.0874	0.0128	-0.3891	-0.0463	Wildfire
Shrubland	0.0146	0.0366	0.6902	-0.0571	0.0863	Wildfire
Tundra	0.1184	0.0525	0.024	0.0156	0.2213	Wildfire
Continent						
Africa	-0.0281	0.0631	0.6565	-0.1517	0.0956	Prescribed
Asia	-0.6069	0.061	<.0001	-0.7264	-0.4873	Prescribed
Australia	-0.2771	0.0547	<.0001	-0.3844	-0.1698	Prescribed
Europe	-0.5372	0.0277	<.0001	-0.5914	-0.4829	Prescribed
North America	-0.240	0.0203	<.0001	-0.2799	-0.2003	Prescribed
South America	-0.66	0.1907	0.0005	-1.0337	-0.2863	Prescribed
Africa	0.0832	0.1189	0.4842	-0.1499	0.3163	Wildfire
Asia	-0.9748	0.0316	<.0001	-1.0367	-0.913	Wildfire
Australia	-0.0542	0.0941	0.5646	-0.2387	0.1303	Wildfire
Europe	-0.1428	0.0231	<.0001	-0.188	-0.0976	Wildfire
North America	-0.0597	0.0248	0.0159	-0.1082	-0.0111	Wildfire

South America	-0.3257	0.0213	<.0001	-0.3674	-0.284	Wildfire

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