Table S1 Latitude and longitude coordinates and degree of urbanization for 44 study sites

Site	Longitude	Latitude	Degrees of urbanization
Yuepu Park	121° 25′ 25″ E	31° 24′ 57″ N	High
Xinglong Greenbelt	121° 50′ 57″ E	31° 18′ 27″ N	Low
Xilin	121° 10′ 41″ E	31° 5′ 48″ N	Moderate
Wild Animal Park	121° 42′ 53″ E	31° 3′ 27″ N	Moderate
Shutang Road	121° 53′ 23″ E	30° 55′ 24″ N	Low
Shiji Park	121° 32′ 46″ E	31° 12′ 51″ N	High
Shetiankun	121° 7′ 59″ E	31° 2′ 58″ N	Moderate
Shanghai Botanical Garden	121° 26′ 29″ E	31° 9′ 9″ N	High
Renmin Park	121° 28′ 4″ E	31° 14′ 4″ N	High
Qingfeng Orchard	121° 46′ 29″ E	31° 21′ 43″ N	Low
Paotaiwan Forest Park	121° 30′ 22″ E	31° 23′ 39″ N	High
Nanhui wetland	121° 58′ 21″ E	30° 54′ 47″ N	Low
Nanhui Farmland	121° 56′ 48″ E	30° 57′ 32″ N	Low
Minhang Sports Park	121° 21′ 38″ E	31° 8′ 58″ N	High
Mindong Orchard	121° 51′ 48″ E	31° 20′ 45″ N	Low
Maritime University	121° 54′ 18″ E	30° 52′ 50″ N	Moderate
Luoshan	121° 9′ 42″ E	31° 4′ 49″ N	Moderate
Lianyou Pond	121° 1′ 28″ E	31° 3′ 27″ N	Low
Lanlugang pond	120° 59′ 3″ E	31° 5′ 11″ N	Low
Kangjian Park	121° 24′ 56″ E	31° 9′ 58″ N	High
Kaixin Farmland	121° 34′ 29″ E	31° 26′ 54″ N	Low
Jinhai Park	121° 38′ 32″ E	31° 15′ 42″ N	Moderate
Jingxiao	120° 59′ 13″ E	31° 3′ 24″ N	Low
Jianghai Farmland	121° 49′ 4″ E	31° 21′ 54″ N	Low
Huangxing Park	121° 31′ 41″ E	31° 17′ 47″ N	High
Houtan Park	121° 27′ 55″ E	31° 10′ 57″ N	High
Haiwan Park	121° 39′ 46″ E	30° 51′ 55″ N	Low
Guyi Park	121° 18′ 35″ E	31° 17′ 38″ N	High
Gucun Park	121° 21′ 50″ E	31° 20′ 34″ N	Moderate
Gongqing Forest Park	121° 32′ 30″ E	31° 19′ 22″ N	Moderate
Gaojia	121° 25′ 21″ E	31° 40′ 43″ N	Low
Gaodong Park	121° 37′ 11″ E	31° 19′ 51″ N	Moderate
Ganju Orchard	121° 41′ 13″ E	31° 25′ 1″ N	Low
Dongping Forest Park	121° 28′ 9″ E	31° 41′ 4″ N	Low
Dongfeng Farmland	121° 26′ 11″ E	31° 43′ 13″ N	Low
Dianshan Wetland	120° 54′ 5″ E	31° 5′ 7″ N	Low
Daning Park	121° 26′ 32″ E	31° 16′ 48″ N	Moderate
Dalian Wetland	121° 59′ 54″ E	31° 4′ 2″ N	Low
Chenshan Botanical Garden	121° 10′ 48″ E	31° 4′ 25″ N	Moderate
Changfeng Park	121° 23′ 35″ E	31° 13′ 24″ N	High
Binjiang Forest Park	121° 31′ 10″ E	31° 22′ 58″ N	High
Baohu Orchard	121° 12′ 6″ E	31° 44′ 13″ N	Low
Zhongshan Park	121° 24′ 59″ E	31° 13′ 17″ N	High
Baigang Road	121° 15′ 19″ E	31° 43′ 33″ N	Low

Table S2 Correlation coefficient matrices for 15 landscape variables used to quantify the relationships between anuran communities and the urban environment of 44 wetlands in Shanghai. Landscape matrices as described by McGarigal et. al. [48];

500 m radius

	PD	LPI	AREA_MN	FRAC_AM	PARA_AM	PROX_MN	ENN_MN	CONTAG	IJI	CONNECT	COHESION	PR	SHDI	SHEI	AI
PD	1	-0.42439	-0.72487	0.001314	0.883806	-0.39581	-0.68979	-0.56507	0.387681	-0.18283	-0.69787	0.509967	0.62001	0.488047	-0.8828
LPI	-0.42439	1	0.512722	0.422277	-0.62524	0.706216	0.454709	0.85254	-0.51036	-0.00992	0.802583	-0.33566	-0.8349	-0.85608	0.612002
AREA_MN	-0.72487	0.512722	1	-0.15254	-0.77069	0.316661	0.680608	0.545278	-0.1276	-0.038	0.54178	-0.61305	-0.64723	-0.49087	0.765039
FRAC_AM	0.001314	0.422277	-0.15254	1	0.12893	0.509637	-0.07735	0.227697	-0.653	0.086579	0.54288	-0.1563	-0.33048	-0.29957	-0.14534
PARA_AM	0.883806	-0.62524	-0.77069	0.12893	1	-0.39342	-0.77377	-0.75743	0.358379	-0.05369	-0.73391	0.420764	0.729485	0.67405	-0.99959
PROX_MN	-0.39581	0.706216	0.316661	0.509637	-0.39342	1	0.275103	0.63326	-0.56999	0.13189	0.622582	-0.32648	-0.66317	-0.65809	0.379072
ENN_MN	-0.68979	0.454709	0.680608	-0.07735	-0.77377	0.275103	1	0.629863	-0.15685	-0.06784	0.552543	-0.11184	-0.50785	-0.56609	0.777964
CONTAG	-0.56507	0.85254	0.545278	0.227697	-0.75743	0.63326	0.629863	1	-0.58116	-0.0643	0.763206	-0.2078	-0.90009	-0.99119	0.746651
IJI	0.387681	-0.51036	-0.1276	-0.653	0.358379	-0.56999	-0.15685	-0.58116	1	-0.07105	-0.72375	0.16278	0.573223	0.588669	-0.34707
CONNECT	-0.18283	-0.00992	-0.038	0.086579	-0.05369	0.13189	-0.06784	-0.0643	-0.07105	1	0.143255	-0.17261	-0.01739	0.075825	0.052495
COHESION	-0.69787	0.802583	0.54178	0.54288	-0.73391	0.622582	0.552543	0.763206	-0.72375	0.143255	1	-0.44617	-0.80765	-0.73911	0.722992
PR	0.509967	-0.33566	-0.61305	-0.1563	0.420764	-0.32648	-0.11184	-0.2078	0.16278	-0.17261	-0.44617	1	0.593709	0.206982	-0.40237
SHDI	0.62001	-0.8349	-0.64723	-0.33048	0.729485	-0.66317	-0.50785	-0.90009	0.573223	-0.01739	-0.80765	0.593709	1	0.90768	-0.71043
SHEI	0.488047	-0.85608	-0.49087	-0.29957	0.67405	-0.65809	-0.56609	-0.99119	0.588669	0.075825	-0.73911	0.206982	0.90768	1	-0.66065
AI	-0.8828	0.612002	0.765039	-0.14534	-0.99959	0.379072	0.777964	0.746651	-0.34707	0.052495	0.722992	-0.40237	-0.71043	-0.66065	1

1000 m radius

	PD	LPI	AREA_MN	FRAC_AM	PARA_AM	PROX_MN	ENN_MN	CONTAG	IJI	CONNECT	COHESION	PR	SHDI	SHEI	AI
PD	1	-0.37283	-0.59165	-0.22187	0.855489	-0.46737	-0.76785	-0.5559	0.481361	-0.44653	-0.72624	0.420827	0.536146	0.411804	-0.85042
LPI	-0.37283	1	0.361047	0.445446	-0.49102	0.743005	0.251829	0.719483	-0.54816	0.317727	0.713586	-0.23428	-0.57771	-0.66125	0.483464
AREA_MN	-0.59165	0.361047	1	-0.10544	-0.71514	0.226897	0.675387	0.308287	-0.30529	0.73766	0.439259	-0.4246	-0.37931	-0.15673	0.711453
FRAC_AM	-0.22187	0.445446	-0.10544	1	0.09366	0.762873	-0.13039	0.592946	-0.73396	-0.2909	0.674854	-0.4437	-0.73291	-0.72416	-0.10915
PARA_AM	0.855489	-0.49102	-0.71514	0.09366	1	-0.30078	-0.8179	-0.52429	0.328987	-0.65485	-0.63282	0.239372	0.369168	0.309319	-0.99979
PROX_MN	-0.46737	0.743005	0.226897	0.762873	-0.30078	1	0.167832	0.701873	-0.74257	0.024429	0.767078	-0.47919	-0.75545	-0.72794	0.287493
ENN_MN	-0.76785	0.251829	0.675387	-0.13039	-0.8179	0.167832	1	0.363339	-0.15734	0.562971	0.455529	-0.04919	-0.1725	-0.17937	0.821392
CONTAG	-0.5559	0.719483	0.308287	0.592946	-0.52429	0.701873	0.363339	1	-0.77974	0.249424	0.822584	-0.22866	-0.79731	-0.96797	0.513472
IJI	0.481361	-0.54816	-0.30529	-0.73396	0.328987	-0.74257	-0.15734	-0.77974	1	-0.11916	-0.79739	0.426536	0.77868	0.785569	-0.31578
CONNECT	-0.44653	0.317727	0.73766	-0.2909	-0.65485	0.024429	0.562971	0.249424	-0.11916	1	0.307322	-0.12133	-0.14714	-0.08192	0.656141
COHESION	-0.72624	0.713586	0.439259	0.674854	-0.63282	0.767078	0.455529	0.822584	-0.79739	0.307322	1	-0.47052	-0.79656	-0.76407	0.621402
PR	0.420827	-0.23428	-0.4246	-0.4437	0.239372	-0.47919	-0.04919	-0.22866	0.426536	-0.12133	-0.47052	1	0.747776	0.267292	-0.22231
SHDI	0.536146	-0.57771	-0.37931	-0.73291	0.369168	-0.75545	-0.1725	-0.79731	0.77868	-0.14714	-0.79656	0.747776	1	0.835351	-0.3505
SHEI	0.411804	-0.66125	-0.15673	-0.72416	0.309319	-0.72794	-0.17937	-0.96797	0.785569	-0.08192	-0.76407	0.267292	0.835351	1	-0.29605
AI	-0.85042	0.483464	0.711453	-0.10915	-0.99979	0.287493	0.821392	0.513472	-0.31578	0.656141	0.621402	-0.22231	-0.3505	-0.29605	1

1500 m radius

	PD	LPI	AREA_MN	FRAC_AM	PARA_AM	PROX_MN	ENN_MN	CONTAG	IJI	CONNECT	COHESION	PR	SHDI	SHEI	AI
PD	1	-0.44188	-0.56578	-0.23244	0.820745	-0.46047	-0.77299	-0.57802	0.434787	-0.43143	-0.71725	0.404571	0.507802	0.415139	-0.81567
LPI	-0.44188	1	0.237897	0.492141	-0.42828	0.708484	0.233001	0.793866	-0.58751	0.268909	0.728774	-0.32271	-0.63112	-0.72911	0.420384
AREA_MN	-0.56578	0.237897	1	-0.15158	-0.71939	0.151684	0.768099	0.210949	-0.21706	0.844233	0.384074	-0.41065	-0.29387	-0.0321	0.716201
FRAC_AM	-0.23244	0.492141	-0.15158	1	0.19111	0.8016	-0.16152	0.723017	-0.81173	-0.34795	0.710957	-0.51197	-0.79394	-0.85912	-0.20379
PARA_AM	0.820745	-0.42828	-0.71939	0.19111	1	-0.15814	-0.83062	-0.40548	0.17707	-0.73073	-0.51079	0.166707	0.227027	0.150745	-0.99987
PROX_MN	-0.46047	0.708484	0.151684	0.8016	-0.15814	1	0.151227	0.77974	-0.78773	-0.07186	0.74346	-0.52619	-0.78537	-0.81686	0.146779
ENN_MN	-0.77299	0.233001	0.768099	-0.16152	-0.83062	0.151227	1	0.266496	-0.08738	0.676502	0.404034	-0.14134	-0.1506	-0.05857	0.831236
CONTAG	-0.57802	0.793866	0.210949	0.723017	-0.40548	0.77974	0.266496	1	-0.84054	0.139686	0.878503	-0.39463	-0.81804	-0.96076	0.39503
IJI	0.434787	-0.58751	-0.21706	-0.81173	0.17707	-0.78773	-0.08738	-0.84054	1	-0.03084	-0.8055	0.473558	0.791419	0.85403	-0.16573
CONNECT	-0.43143	0.268909	0.844233	-0.34795	-0.73073	-0.07186	0.676502	0.139686	-0.03084	1	0.271212	-0.10319	-0.06166	0.072511	0.731772
COHESION	-0.71725	0.728774	0.384074	0.710957	-0.51079	0.74346	0.404034	0.878503	-0.8055	0.271212	1	-0.55067	-0.8261	-0.81882	0.49986
PR	0.404571	-0.32271	-0.41065	-0.51197	0.166707	-0.52619	-0.14134	-0.39463	0.473558	-0.10319	-0.55067	1	0.837354	0.450603	-0.1521
SHDI	0.507802	-0.63112	-0.29387	-0.79394	0.227027	-0.78537	-0.1506	-0.81804	0.791419	-0.06166	-0.8261	0.837354	1	0.861283	-0.2115
SHEI	0.415139	-0.72911	-0.0321	-0.85912	0.150745	-0.81686	-0.05857	-0.96076	0.85403	0.072511	-0.81882	0.450603	0.861283	1	-0.13863
AI	-0.81567	0.420384	0.716201	-0.20379	-0.99987	0.146779	0.831236	0.39503	-0.16573	0.731772	0.49986	-0.1521	-0.2115	-0.13863	1

2000 m radius

	PD	LPI	AREA_MN	FRAC_AM	PARA_AM	PROX_MN	ENN_MN	CONTAG	IJI	CONNECT	COHESION	PR	SHDI	SHEI	AI
PD	1	-0.38914	-0.57628	-0.07356	0.829052	-0.35764	-0.8476	-0.45406	0.327895	-0.50789	-0.60895	0.319763	0.41562	0.311425	-0.82551
LPI	-0.38914	1	0.240009	0.390229	-0.44485	0.63216	0.255966	0.752507	-0.57171	0.404103	0.699882	-0.08342	-0.57755	-0.68427	0.439369
AREA_MN	-0.57628	0.240009	1	-0.20901	-0.70768	0.129143	0.693839	0.2163	-0.19962	0.835743	0.340764	-0.36959	-0.26273	-0.07411	0.704984
FRAC_AM	-0.07356	0.390229	-0.20901	1	0.303119	0.81324	-0.1488	0.691241	-0.82203	-0.37485	0.6997	-0.37439	-0.78151	-0.81513	-0.31244
PARA_AM	0.829052	-0.44485	-0.70768	0.303119	1	-0.07257	-0.83049	-0.33818	0.107841	-0.79443	-0.42058	0.034648	0.149744	0.126299	-0.99993
PROX_MN	-0.35764	0.63216	0.129143	0.81324	-0.07257	1	0.193747	0.750823	-0.78141	-0.0418	0.765023	-0.4415	-0.81394	-0.79543	0.063417
ENN_MN	-0.8476	0.255966	0.693839	-0.1488	-0.83049	0.193747	1	0.311259	-0.12988	0.589539	0.407056	-0.1166	-0.1926	-0.14982	0.829641
CONTAG	-0.45406	0.752507	0.2163	0.691241	-0.33818	0.750823	0.311259	1	-0.87834	0.2222	0.871396	-0.16967	-0.82216	-0.97373	0.329761
IJI	0.327895	-0.57171	-0.19962	-0.82203	0.107841	-0.78141	-0.12988	-0.87834	1	-0.08146	-0.82868	0.2855	0.806545	0.897679	-0.09895
CONNECT	-0.50789	0.404103	0.835743	-0.37485	-0.79443	-0.0418	0.589539	0.2222	-0.08146	1	0.27698	-0.04252	-0.08655	-0.04214	0.794506
COHESION	-0.60895	0.699882	0.340764	0.6997	-0.42058	0.765023	0.407056	0.871396	-0.82868	0.27698	1	-0.38944	-0.83908	-0.83582	0.411686
PR	0.319763	-0.08342	-0.36959	-0.37439	0.034648	-0.4415	-0.1166	-0.16967	0.2855	-0.04252	-0.38944	1	0.682315	0.23251	-0.02515
SHDI	0.41562	-0.57755	-0.26273	-0.78151	0.149744	-0.81394	-0.1926	-0.82216	0.806545	-0.08655	-0.83908	0.682315	1	0.865802	-0.13792
SHEI	0.311425	-0.68427	-0.07411	-0.81513	0.126299	-0.79543	-0.14982	-0.97373	0.897679	-0.04214	-0.83582	0.23251	0.865802	1	-0.11696
AI	-0.82551	0.439369	0.704984	-0.31244	-0.99993	0.063417	0.829641	0.329761	-0.09895	0.794506	0.411686	-0.02515	-0.13792	-0.11696	1

Table S3. Correlation coefficient matrices for 8 independent landscape variables at different spatial scales.

500 m radius	**IJI**	**CONNECT**	**PR**	**SHEI**
ENN_MN	-0.157	-0.068	-0.112	-0.566
IJI		-0.071	0.163	0.589
CONNECT			-0.173	0.076
PR				0.207
1000 m radius	**LPI**	**AREA_MN**	**IJI**	**PR**
PD	-0.373	-0.592	0.481	0.421
LPI		0.361	-0.548	-0.234
AREA_MN			-0.305	-0.425
IJI				0.427
1500 m radius	**LPI**	**AREA_MN**	**IJI**	**PR**
PD	-0.442	-0.566	0.435	0.405
LPI		0.238	-0.588	-0.323
AREA_MN			-0.217	-0.411
IJI				0.474
2000 m radius	**LPI**	**IJI**	**CONNECT**	**PR**
PD	-0.389	0.328	-0.508	0.320
LPI		-0.572	0.404	-0.083
IJI			-0.081	0.285
CONNECT				-0.043

Table S4. The best models ($\Delta_i \leq 2$) examining relationships between multi-scale landscape variables and the relative abundances of five anuran species, total anuran relative abundance and anuran species richness in 44 urban ponds in Shanghai. The best models predicting *P. nigromaculatus* are shown in Table 4a; the best models predicting *F. multistriata* are shown in Table 4b; the best models predicting *M. fissipes* are shown in Table 4c; the best models predicting *B. gargarizans* are shown in Table 4d; the best models predicting *P. plancyi* are shown in Table 4e; the best models predicting total anuran abundance are shown in Table 4f; the best models predicting anuran species richness are shown in Table 4g;.

Table 4. a.

Scales	Model	AICc	Δi	Wi	R^2_{adj}
500 m	PR	126.2	0.00	0.14	0.07
	IJI+PR	126.3	0.11	0.13	0.09
	IJI	127.3	1.16	0.08	0.04
	ENN_MN+IJI+PR	127.3	1.17	0.08	0.10
	ENN_MN+PR	127.7	1.50	0.07	0.06
	Summed Akaike weight (∑wi)			***0.50***	
1000 m	AREA_MN+IJI+PR	124.5	0	0.09	0.16
	AREA_MN+PR	124.6	0.08	0.08	0.13
	PR	125.2	0.76	0.06	0.09
	IJI+PR	126	1.57	0.04	0.1
	IJI	126.2	1.69	0.03	0.07
	Summed Akaike weight (∑wi)			***0.30***	
1500 m	AREA_MN+PR	124.6	0	0.14	0.13
	AREA_MN+PR+IJI	125.3	0.68	0.1	0.15
	PR	125.3	0.73	0.1	0.09
	AREA_MN+LPI+PR	125.9	1.26	0.07	0.13
	IJI	125.9	1.27	0.07	0.08
	IJI+PR	126.1	1.55	0.07	0.1
	Summed Akaike weight (∑wi)			***0.55***	
2000 m	PR	125.4	0	0.14	0.09
	PR-LPI	125.8	0.36	0.11	0.11
	IJI+PR	126.4	0.96	0.08	0.09
	PR-LPI-PD	126.7	1.28	0.07	0.12
	PR-LPI+CONNECT	126.9	1.49	0.06	0.11
	Summed Akaike weight (∑wi)			***0.46***	

Table 4. b.

Scales	**Model**	**AICc**	**Δi**	**Wi**	R^2_{adj}
500 m	CONNECT+ENN_MN+IJI	122.1	0.00	0.19	0.20
	ENN_MN+IJI	122.5	0.44	0.16	0.17
	ENN_MN+IJI+PR	124.1	1.97	0.07	0.17
	Summed Akaike weight (∑wi)			***0.42***	
1000 m	AREA_MN+PR+IJI	117.2	0.00	0.39	0.29
	AREA_MN+IJI	119.1	1.9	0.15	0.23
	Summed Akaike weight (∑wi)			***0.54***	
1500 m	AREA_MN+PR-LPI	112.8	0.00	0.29	0.36
	AREA_MN+PR+IJI	113.2	0.35	0.24	0.35
	AREA_MN+IJI-LPI+PR	114.4	1.53	0.13	0.36
	AREA_MN+PR	114.5	1.63	0.13	0.31
	Summed Akaike weight (∑wi)			***0.79***	
2000 m	CONNECT-LPI+PR	111.7	0.00	***0.46***	0.37

Table 4. c.

Scales	Model	AICc	Δi	Wi	R^2_{adj}
500 m	ENN_MN	128.0	0.00	0.10	0.03
	IJI	128.4	0.40	0.08	0.02
	CONNECT-ENN_MN	128.4	0.44	0.08	0.05
	CONNECT	128.9	0.86	0.06	0.01
	ENN_MN+IJI	128.9	0.91	0.06	0.04
	PR	129.2	0.19	0.05	0.00
	SHEI	129.4	1.36	0.05	0.00
	CONNECT+IJI	129.4	1.41	0.05	0.03
	ENN_MN+PR	129.5	1.46	0.04	0.02
	CONNECT-ENN_MN+IJI	129.7	1.68	0.04	0.05
	CONNECT+SHEI	129.9	1.93	0.03	0.01
	IJI+PR	130.0	1.97	0.03	0.01
	Summed Akaike weight (∑wi)			***0.67***	
1000 m	PD	125.9	0.00	0.17	0.10
	IJI	126.8	0.90	0.11	0.06
	IJI+PD	127	1.11	0.10	0.80
	Summed Akaike weight (∑wi)			***0.38***	
1500 m	PD	127.7	0.00	0.13	0.04
	IJI	128.1	0.36	0.11	0.03
	PR	128.8	1.04	0.08	0.01
	LPI	129.1	1.39	0.07	0.01
	IJI+PD	129.4	1.66	0.06	0.03
	AREA_MN	129.6	1.92	0.05	0.00
	PD+PR	129.7	1.95	0.05	0.02
	Summed Akaike weight (∑wi)			***0.55***	
2000 m	PD	125.9	0.00	0.15	0.08
	IJI+PD	126.3	0.40	0.12	0.10
	IJI	126.5	0.62	0.11	0.06
	PD-LPI	127.6	1.77	0.06	0.07
	Summed Akaike weight (∑wi)			***0.44***	

Table 4. d.

Scales	Model	AICc	Δi	Wi	R^2_{adj}
500 m	PR	123.3	0.00	***0.32***	0.13
1000 m	PR	123.1	0.00	***0.28***	0.14
1500 m	PR	119.6	0.00	0.32	0.20
	FLPI+PR	121.6	1.93	0.12	0.19
	Summed Akaike weight (∑wi)			***0.44***	
2000 m	PR	120.8	0.00	0.28	0.18
	PR-LPI	122.5	1.62	0.12	0.17
	IJI+PR	123.1	1.63	0.12	0.17
	Summed Akaike weight (∑wi)			***0.52***	

Table 4. e.

Scales	Model	AICc	Δi	Wi	R^2_{adj}
500 m	CONNECT+SHEI	124.9	0.00	0.16	0.13
	SHEI	125.6	0.76	0.11	0.08

	CONNECT+IJI	126.2	1.30	0.08	0.10
	CONNECT+PR+SHEI	126.7	1.82	0.06	0.12
	Summed Akaike weight (∑wi)			***0.41***	
1000 m	IJI	127.4	0.00	***0.21***	0.04
	LPI	126.8	0.00	0.15	0.06
	IJI	127.1	0.21	0.14	0.05
1500 m	IJI-LPI	128.4	1.57	0.07	0.05
	PD	128.6	1.79	0.06	0.02
	Summed Akaike weight (∑wi)			***0.42***	
2000 m	LPI	123.5	0.00	***0.25***	0.13

Table 4. f.

Scales	Model	AICc	Δi	Wi	R^2_{adj}
	IJI+PR	120.9	0.00	0.25	0.20
500 m	IJI	122.3	1.36	0.13	0.15
	ENN_MN+IJI+PR	122.7	1.80	0.10	0.19
	Summed Akaike weight (∑wi)			***0.48***	
	AREA_MN+IJI+PR	116.9	0.00	0.27	0.29
1000 m	IJI	118.8	1.96	0.1	0.21
	IJI+PR	118.8	1.96	0.1	0.24
	Summed Akaike weight (∑wi)			***0.47***	
	AREA_MN-LPI+PR	116.7	0.00	0.13	0.3.0
	AREA_MN+IJI-LPI+PR	116.8	0.14	0.11	0.32
	AREA_MN+IJI+PR	117.1	0.37	0.11	0.30
	IJI+PR	117.8	1.06	0.07	0.26
1500 m	IJI	117.8	1.09	0.07	0.23
	IJI-LPI	118.1	1.39	0.06	0.25
	IJI-LPI+PR	118.3	1.65	0.06	0.27
	PR-LPI	118.4	1.68	0.05	0.25
	Summed Akaike weight (∑wi)			***0.66***	
	CONNECT-LPI+PR	115.3	0.00	0.17	0.32
	CONNECT-LPI+PR+PR	116.3	1.03	0.10	0.33
	CONNECT-LPI+IJI	116.4	1.12	0.10	0.3
2000 m	IJI-LPI	116.6	1.36	0.09	0.28
	IJI-LPI+PR	117.0	1.70	0.07	0.29
	CONNECT-LPI	117.1	1.81	0.06	0.28
	PR-LPI	117.1	1.85	0.06	0.27
	Summed Akaike weight (∑wi)			***0.65***	

Table 4. g.

Scales	Model	AICc	Δi	Wi	R^2_{adj}
	IJI+PR	121.8	0.00	0.21	0.18
500 m	IJI+PR-SHEI	122.8	0.95	0.13	0.19
	IJI	122.8	0.98	0.12	0.14
	Summed Akaike weight (∑wi)			***0.46***	
	IJI+PR	120.7	0.00	0.22	0.21
1000 m	IJI	121.4	0.74	0.15	0.16
	Summed Akaike weight (∑wi)			***0.37***	
1500 m	IJI	119.4	0.00	0.26	0.20
	IJI+PR	120.4	1.02	0.15	0.21

	Summed Akaike weight (∑wi)			***0.41***	
2000 m	IJI	120.3	0.00	0.25	0.19
	IJI+PR	121.2	0.91	0.16	0.20
	IJI+PD	122.3	1.97	0.09	0.17
	Summed Akaike weight (∑wi)			***0.50***	

Table S5. Model-averaged coefficients and 95% confidence intervals showing the direction relative magnitude of the effects of landscape variables on anuran relative abundance, and species at different spatial scales in urban landscapes in Shanghai. All possible models were estimated, using generalized linear modelling. Each coefficient was model-averaged across estimates from all models containing that coefficient. Bold font indicates $p < 0.05$.

Species	Variable	Coefficient	SE	z value	*P*
500m					
P. nigromaculatus	PR	0.29	0.14	1.91	0.05
	IJI	0.23	0.14	1.54	0.12
	ENN_MN	0.15	0.14	1.02	0.30
F. multistriata	CONNECT	-0.29	0.13	1.62	0.10
	ENN_MN	0.30	0.13	2.13	**0.03**
	IJI	0.37	0.14	2.59	**0.01**
	PR	0.13	0.14	0.94	0.34
M. fissipes	ENN_MN	-0.22	0.14	1.45	0.14
	IJI	0.19	0.15	1.23	0.21
	CONNECT	-0.19	0.15	1.24	0.21
	PR	0.15	0.15	0.96	0.33
	SHEI	0.16	0.15	1.04	0.29
B. gargarizans	PR	0.38	0.14	2.72	**0.01**
P. plancyi	CONNECT	0.26	0.14	1.78	0.07
	SHEI	0.30	0.14	2.02	**0.04**
	IJI	0.25	0.14	1072.00	0.08
	PR	0.12	0.14	0.79	0.42
Total anuran abundance	IJI	0.38	0.13	2.46	**0.00**
	PR	0.26	0.14	1.87	0.06
	ENN_MN	0.11	0.13	0.81	0.41
Anuran species richness	IJI	0.04	0.15	2.49	**0.01**
	PR	0.26	0.14	1.81	0.06
	SHEI	-0.20	0.17	1.18	0.23
1000m					
P. nigromaculatus	AREA_MN	0.29	0.15	1.79	0.07
	IJI	0.24	0.15	1.51	0.13
	PR	0.36	0.17	2.09	**0.03**
F. multistriata	AREA_MN	0.45	0.14	2.95	**0.00**
	IJI	0.41	0.15	2.67	**0.00**
	PR	0.31	0.15	2.00	**0.04**
M. fissipes	PD	0.21	0.14	1.32	0.18
	IJI	0.20	0.16	1.19	0.23
	PR	0.16	0.16	0.10	0.33
	LPI	-0.17	0.16	1.09	0.26
	AREA_MN	-0.13	0.15	0.86	0.38
B. gargarizans	PR	0.34	0.14	2.76	**0.00**
P. plancyi	IJI	0.25	0.14	1.72	0.09
Total anuran abundance	AREA_MN	0.29	0.14	2.01	**0.04**
	IJI	0.43	0.14	2.88	**0.00**
	PR	0.30	0.15	1.87	0.06
Anuran species richness	IJI	0.36	0.15	2.28	**0.02**
	PR	0.26	0.15	1.69	0.08
1500m					
P. nigromaculatus	AREA_MN	0.27	0.15	1.73	0.05

	PR	0.36	0.17	2.05	**0.03**
	IJI	0.24	0.16	1.42	0.15
	LPI	-0.17	0.15	1.06	0.28
F. multistriata	AREA_MN	0.51	0.13	3.16	**0.00**
	LPI	-0.23	0.14	1.59	0.11
	PR	0.49	0.15	3.19	**0.00**
	IJI	0.23	0.15	1.43	0.15
M. fissipes	PD	0.29	0.15	1.76	0.07
	IJI	0.23	0.16	1.40	0.16
B. gargarizans	PR	0.45	0.13	3.18	**0.00**
	LPI	-0.99	0.14	0.66	0.51
P. plancyi	LPI	-0.13	0.16	1.46	0.14
	IJI	0.11	0.16	1.36	0.17
	PD	0.30	0.15	1.29	0.19
Total anuran abundance	AREA_MN	0.27	0.14	1.85	0.06
	LPI	-0.30	0.16	1.76	0.07
	PR	0.31	0.16	1.90	0.06
	IJI	0.36	0.17	1.98	**0.04**
Anuran species richness	IJI	0.44	0.14	2.88	**0.00**
	PR	0.17	0.15	1.11	0.26
2000m					
P. nigromaculatus	PR	0.32	0.14	2.08	**0.03**
	LPI	-0.24	0.15	1.51	0.12
	IJI	0.17	0.15	1.14	0.25
	PD	-0.20	0.16	1.19	0.23
	CONNECT	0.18	0.15	1.11	0.26
F. multistriata	CONNECT	0.55	0.13	4.18	**0.00**
	LPI	-0.46	0.13	-3.47	**0.00**
	PR	0.31	0.12	2.56	**0.01**
M. fissipes	PD	0.28	0.15	1.75	0.07
	IJI	0.25	0.15	1.56	0.11
	LPI	-0.13	0.15	0.76	0.44
B. gargarizans	PR	0.43	0.14	2.98	**0.00**
	LPI	-0.12	0.13	0.84	0.39
	IJI	0.12	0.14	0.83	0.40
P. plancyi	LPI	-0.38	0.14	-2.68	**0.01**
Total anuran abundance	CONNECT	0.26	0.14	1.79	0.07
	LPI	-0.46	0.18	2.42	**0.01**
	PR	0.23	0.13	1.71	0.08
	IJI	0.26	0.16	1.53	0.12
Anuran species richness	IJI	0.43	0.14	2.94	**0.00**
	PR	0.17	0.14	1.16	0.24
	PD	0.96	0.14	0.63	0.52