

Appendix 2

Table A2. Principal component analysis results illustrating the contribution of acoustic features in the first four principal components to the context variation of zip calls, sorted in decreasing order according to the total squared cosine (\cos^2) score of the first two principal components (values more than 0.8 in bold).

Acoustic features	Loadings				Cos ²		
	PC1	PC2	PC3	PC4	PC1	PC2	Total
freq.Q25	-0.2263	-0.2549	-0.1079	-0.0758	0.5343	0.3750	0.9093
meandom	-0.2684	-0.1603	-0.0976	-0.0855	0.7517	0.1484	0.9001
meanfreq	-0.2739	-0.1331	-0.1442	-0.0449	0.7825	0.1022	0.8847
freq.median	-0.2646	-0.1584	-0.1277	-0.0865	0.7305	0.1448	0.8753
bottom.freq	-0.2348	-0.2122	0.0802	0.0450	0.5752	0.2598	0.8350
freq.Q75	-0.2814	-0.0317	-0.1610	-0.0563	0.8258	0.0058	0.8316
mindom	-0.1634	-0.3031	0.0466	-0.0542	0.2784	0.5302	0.8086
sp.ent	-0.1716	0.2816	0.0545	-0.0213	0.3072	0.4575	0.7647
freq.IQR	-0.1196	0.3255	-0.1004	0.0212	0.1491	0.6114	0.7605
sd	-0.0894	0.3321	-0.1442	0.1722	0.0834	0.6366	0.7200
entropy	-0.2261	0.1698	0.0593	0.2334	0.5333	0.1664	0.6996
sfm	-0.1971	0.2091	0.1199	0.1563	0.4054	0.2524	0.6577
meanpeakf	-0.2076	-0.1868	-0.1205	-0.0994	0.4498	0.2014	0.6512
maxdom	-0.2361	0.0742	-0.1912	-0.0465	0.5815	0.0318	0.6133
time.IQR	0.2325	-0.0707	-0.1573	-0.0579	0.5640	0.0288	0.5929
startdom	-0.1610	-0.2242	-0.0207	0.1872	0.2706	0.2901	0.5607
dfrange	-0.1119	0.2622	-0.2051	-0.0080	0.1306	0.3966	0.5272
duration	0.2125	-0.0753	-0.3008	0.0107	0.4713	0.0327	0.5041
time.Q75	0.2119	-0.0749	-0.3284	-0.0131	0.4684	0.0324	0.5008
time.ent	-0.1971	0.0520	0.0385	0.3289	0.4053	0.0156	0.4208
bandwidth	0.0922	0.2225	-0.3134	0.0234	0.0886	0.2856	0.3742
skew	0.0993	-0.2046	-0.1094	0.3347	0.1030	0.2415	0.3445
dfslope	-0.0875	0.1985	-0.0007	-0.3686	0.0798	0.2273	0.3072
enddom	-0.1681	0.0287	-0.1929	-0.3333	0.2950	0.0047	0.2997
kurt	0.0879	-0.1777	-0.1000	0.3338	0.0806	0.1822	0.2628
time.median	0.1440	-0.0621	-0.3690	0.0222	0.2164	0.0223	0.2387
modindx	-0.1426	0.0346	-0.0434	0.4685	0.2122	0.0069	0.2191
top.freq	-0.0746	0.1156	-0.3452	0.0684	0.0581	0.0771	0.1352
time.Q25	0.0078	-0.0219	-0.3505	0.0720	0.0006	0.0028	0.0034
Standard deviation	3.2299	2.4022	1.7881	1.5042			
Proportion of Variance	0.3597	0.1990	0.1103	0.0780			
Cumulative Proportion	0.3597	0.5587	0.6690	0.7470			
Eigenvalue	10.4324	5.7704	3.1974	2.2627			