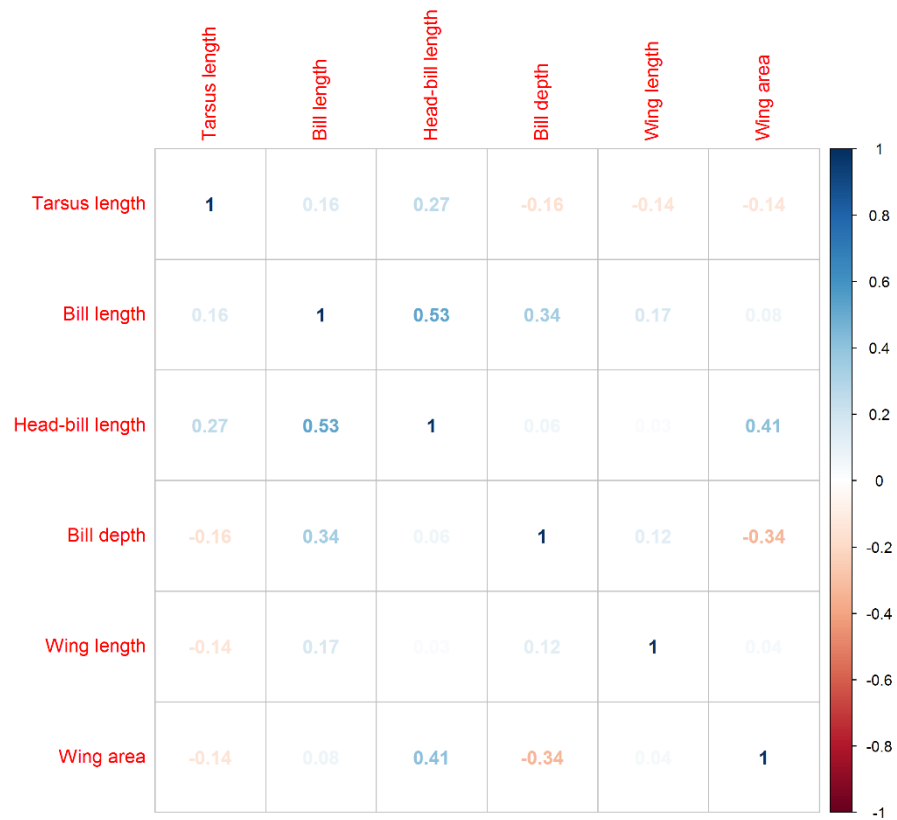


**Supplementary material**

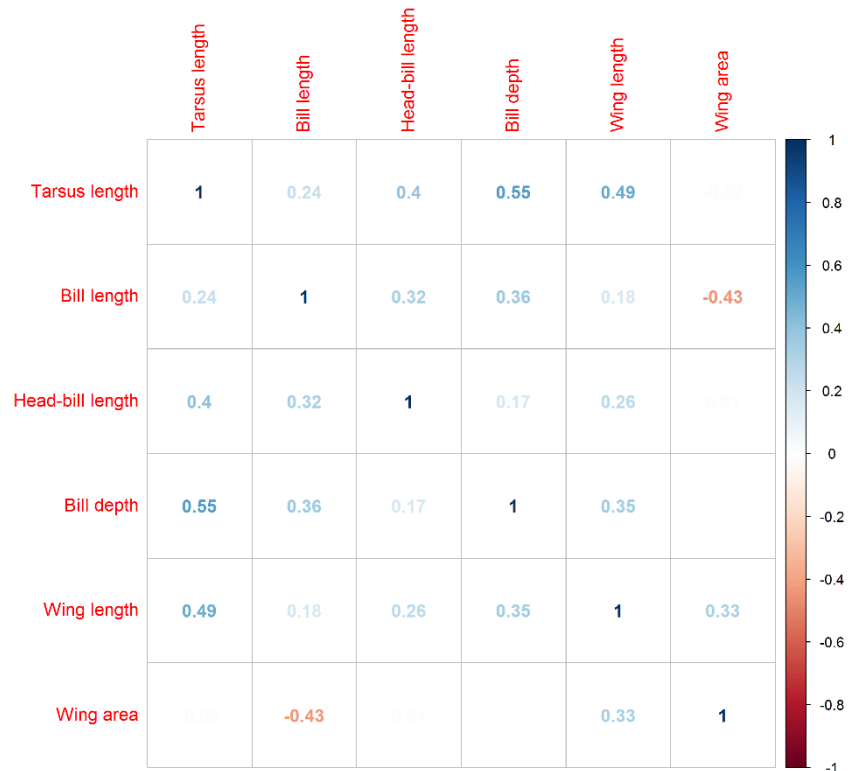
## APPENDIX 1.

**Figure A1.** Correlograms showing correlation scores between morphometric measurements in (a) blue petrels and (b) Antarctic prions.

**(a)**



**(b)**

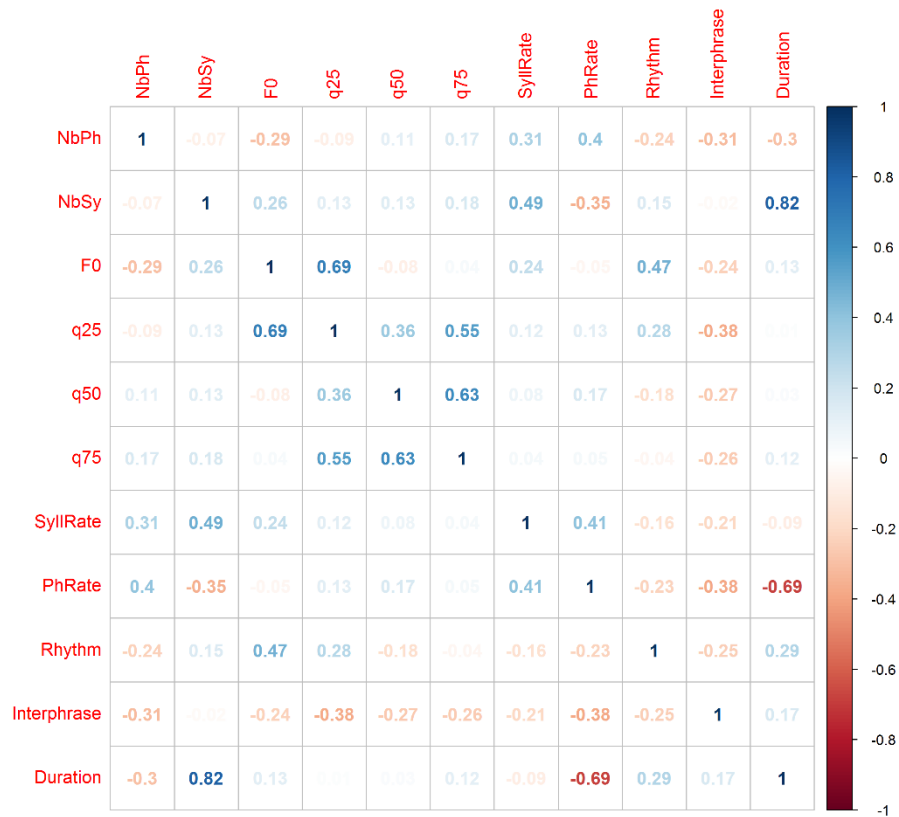


**Table A1.** Summary of morphometric measurements of males of blue petrels and Antarctic prions.

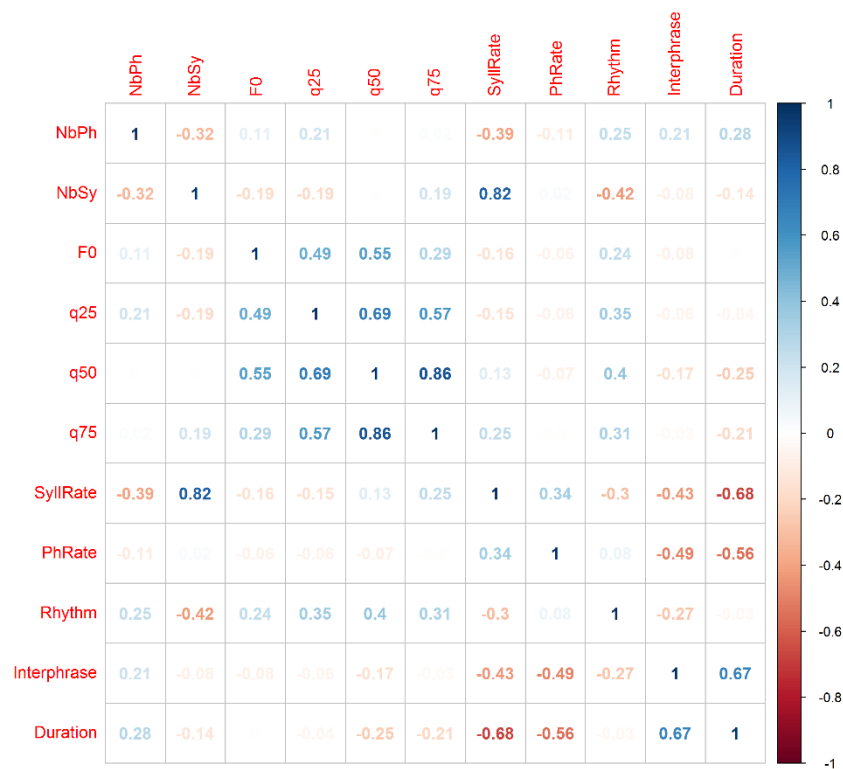
Morphometric measurements	Blue petrel			Antarctic prion		
	mean	sd	N	mean	sd	N
Tarsus length (mm)	33.30	0.94	25	33.29	1.15	17
Bill length (mm)	25.89	0.89	25	26.92	0.93	17
Head-bill length (mm)	66.33	1.88	25	61.71	0.87	17
Bill depth (mm)	9.46	0.55	25	8.53	0.35	17
Wing length (mm)	218.25	4.02	25	191.80	4.80	17
Wing area (cm <sup>2</sup> )	197.54	18.95	25	181.41	18.50	17

**Figure A2.** Correlograms showing correlation scores between acoustic parameters in (a) blue petrels and (b) Antarctic prions.

(a)



(b)



**Table A2.** Summary of acoustic parameters measured on male calls of blue petrels and Antarctic prions. Abbreviations of acoustic parameters as given in Table 1.

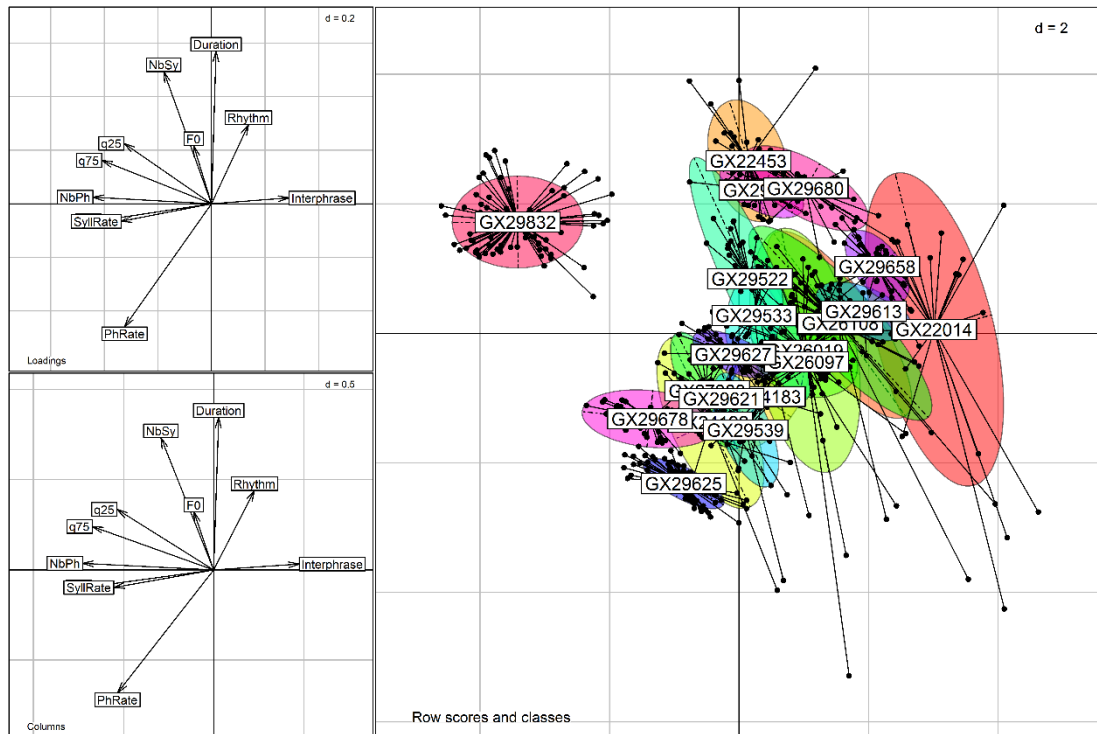
Acoustic parameters	Blue petrel			Antarctic prion		
	mean	sd	N	mean	sd	N
NbPh	21.26	13.42	285	10.62	4.85	148
NbSy	7.41	1.69	285	4.49	0.59	148
F0 (Hz)	458.96	53.91	285	672.11	100.24	148
q25 (Hz)	434.71	43.36	285	562.01	73.02	148
q50 (Hz)	574.74	102.62	285	707.72	108.32	148
q75 (Hz)	818.91	181.93	285	898.14	184.66	148
SyllRate	2.57	0.34	285	3.37	0.58	148
PhRate	0.38	0.06	285	0.75	0.11	148
Rhythm	1.19	0.12	285	1.71	0.27	148
Interphrase (s)	0.24	0.05	285	0.18	0.03	148
Duration (s)	2.89	0.57	285	1.35	0.13	148

**Table A3.** The first two principal components (PC) resulting from CIA on acoustic parameters of and morphometric measurements measured of blue petrel and Antarctic prion males. Values above 0.5 are in bold. Abbreviations of acoustic parameters as given in Table 1.

	Blue petrel		Antarctic prion	
	PC1 (51.0%)	PC2 (22.8%)	PC1 (52.9%)	PC2 (25.6%)
<b>Acoustic parameters</b>				
NbPh	-0,10	-0,03	0,11	0,03
NbSy	<b>-0,62</b>	-0,13	0,08	-0,07
F0	-0,27	-0,16	0,15	-0,07
q25	-0,22	-0,19	<b>0,50</b>	-0,23
q50	0,07	-0,33	<b>0,51</b>	0,04
q75	-0,11	-0,16	<b>0,57</b>	0,06
SyllRate	-0,30	<b>-0,58</b>	0,13	0,24
PhRate	0,13	-0,15	-0,13	<b>0,60</b>
Rhythm	-0,17	0,46	0,25	0,17
Interphrase	0,31	-0,40	-0,02	<b>-0,51</b>
Duration	-0,49	0,24	-0,15	-0,48
<b>Morphometric measurements</b>				
Tarsus	-0,37	-0,21	-0,14	0,15
Bill length	<b>-0,53</b>	-0,21	-0,02	-0,45
Head-bill length	<b>-0,60</b>	0,41	<b>-0,74</b>	<b>-0,50</b>
Bill depth	0,31	-0,03	0,02	-0,34
Wing length	-0,22	<b>-0,77</b>	<b>-0,51</b>	<b>0,63</b>
Wing area	-0,27	0,38	-0,42	0,07

**Figure A3.** Individual vocal discrimination of males based on 11 acoustic parameters, using a Between-Class Analysis (Dolédec and Chessel 1987), in (a) blue petrels and (b) Antarctic prions. Each ellipse represents a male labelled by its ring number.

(a)



(b)

