

Supplementary Tables**Table S1: The ANOVA results for sprint speed for female northern quolls ($n = 76$) (*Dasyurus hallucatus*).**

	Df	Sum Sq	Mean Sq	F-value	P-value
Mass	1	0.17	0.17	0.54	0.47
Body shape	1	0.04	0.04	0.11	0.74
Body condition	1	0.45	0.45	1.42	0.24
Age tested	2	0.39	0.19	0.62	0.54
Residuals	70	21.92	0.31		

The ANOVA results of female northern quolls contained sprint speed as the response variable and mass, body shape, body condition and age tested as predictor variables.

Table S2: The ANOVA results for acceleration for female northern quolls ($n = 76$) (*Dasyurus hallucatus*).

	Df	Sum Sq	Mean Sq	F-value	P-value
Mass	1	8.21	8.21	2.87	0.09
Body shape	1	1.04	1.04	0.36	0.55
Body condition	1	2.62	2.62	0.92	0.34
Age tested	2	2.19	1.10	0.38	0.68
Residuals	70	200.09	2.86		

The ANOVA results of female northern quolls contained acceleration as the response variable and mass, body shape, body condition and age tested as predictor variables.

Table S3: The ANOVA results for maximum angular velocity around a 90° corner for female northern quolls ($n = 76$) (*Dasyurus hallucatus*).

	Df	Sum Sq	Mean Sq	F-value	P-value
Mass	1	24	24.2	8.00E-04	0.98
Body shape	1	7475	7475.4	0.25	0.62
Body condition	1	633	632.7	0.02	0.88
Age tested	2	3.49E+04	1.74E+04	0.58	0.56
Residuals	70	2.10E+06	2.99E+04		

The ANOVA results of female northern quolls contained maximum angular velocity around a 90° corner as the response variable and mass, body shape, body condition and age tested as predictor variables.

Table S4: The ANOVA results for forward velocity around a 90° corner for female northern quolls ($n = 76$) (*Dasyurus hallucatus*).

	Df	Sum Sq	Mean Sq	F-value	P-value
Mass	1	0.04	0.04	0.26	0.61
Body shape	1	0.09	0.09	0.68	0.41
Body condition	1	0.01	0.01	0.08	0.78
Age tested	2	1.47	0.73	5.22	< 0.01*
Residuals	70	9.83	0.14		

The ANOVA results of female northern quolls contained forward velocity around a 90° corner as the response variable and mass, body shape, body condition and age tested as predictor variables.

Asterisks indicate significance.

Table S5: The ANOVA results for forward velocity around a 135° corner for female northern quolls ($n = 76$) (*Dasyurus hallucatus*).

	Df	Sum Sq	Mean Sq	F-value	P-value
Mass	1	0.10	0.10	0.89	0.35
Body shape	1	0.18	0.18	1.69	0.20
Body condition	1	0.24	0.24	2.21	0.14
Age tested	2	1.46	0.73	6.72	< 0.01*
Mass*Age tested	2	0.59	0.29	2.71	0.07*
Residuals	68	7.37	0.11		

The ANOVA results of female northern quolls contained forward velocity around a 135° corner as the response variable and mass, body shape, body condition and age tested as predictor variables.

Asterisks indicate significance.