**8 November 2020**

**Tracy Boal final copyedit; approved for J. Swenson/typesetting**

**SUPPLEMENTAL MATERIAL**

**Running Head:** Brown bear feeding habits in a poor mast year

**Title:** Brown bear feeding habits in a poor mast year where supplemental feeding occurs

**Authors:** Joana Pereira1,2,4,5, Leona Viličić1, Luís Miguel Rosalino2,4, Slaven Reljić1, Marina Habazin1, Đuro Huber3

**Affiliations:**

1 *Department of Biology, Faculty of Veterinary Medicine, University of Zagreb, Heinzelova 55, 10000, Zagreb, Croatia*

2 *Departamento de Biologia & CESAM, Universidade de Aveiro, Campus Universitário de Santiago, 3810-193 Aveiro, Portugal*

3 *Institute of Nature Conservation of Polish Academy of Sciences, Adama Mickiewicza 33, 31120 Krakow, Poland*

4 *cE3c - Centre for Ecology, Evolution and Environmental Changes, Faculdade de Ciências, Universidade de Lisboa, Campo Grande, 1749-016 Lisboa, Portugal*

5 e-mail: jgopereira@fc.ul.pt

**Table S1. Characteristics of the highest ranked models explaining variation in the %V of cereals ingested by brown bears throughout 2017 in Croatia, ordered by increasing AICc values. The highest ranked model-averaging parameters are presented at the bottom.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Models** | **dfa** | **LogLikb** | **AIC*c*c** | **∆AIC*c*d** | ***w*e** |
| Season | 3 | −19.39 | 45.3 | 0.00 | 0.30 |
| Null model | 2 | −20.86 | 46.0 | 0.66 | 0.22 |
| Season + Age | 4 | −19.00 | 46.9 | 1.59 | 0.14 |
| Age | 3 | −20.32 | 47.2 | 1.87 | 0.12 |
| Season + Region | 4 | −19.18 | 47.2 | 1.94 | 0.11 |
| Season + Weight | 4 | −19.19 | 47.3 | 1.96 | 0.11 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Model-averaging coefficients** | | | | | | |
|  | **βf** | **SEg** | ***t*-value** | ***P*-value** | **95% CIh** | **RIi** |
| Intercept | 0.27 | 0.08 | 3.42 | 0.0006 | [0.12, 0.43] |  |
| Season (spring) | −0.19 | 0.12 | 1.63 | 0.10 | [−0.42, 0.04] | 0.67 |
| Age (subadults) | 0.10 | 0.11 | 0.91 | 0.37 | [−0.11, 0.31] | 0.26 |
| Region (LK) | −0.07 | 0.11 | 0.62 | 0.54 | [−0.29, 0.15] | 0.11 |
| Weight (>100 kg) | −0.06 | 0.10 | 0.60 | 0.55 | [−0.27, 0.15] | 0.11 |

a df, degrees of freedom.

b LogLik, log-likelihood of the linear model.

c AICc, Akaike Information Criteria for small sample sizes.

d The difference between each model AICc and the smaller AICc value.

e w, Akaike weight.

f β, variable coefficient.

g SE, standard error.

h CI, confidence interval.

i RI, relative importance*.*

**Table S2. Characteristics of the highest ranked models explaining variation in the %V of herbs ingested by brown bears throughout 2017 in Croatia, ordered by increasing AICc values. The highest ranked model-averaging parameters are presented at the bottom.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Models** | **dfa** | **LogLikb** | **AIC*c*c** | **∆AIC*c*d** | ***w*e** |
| Season | 3 | −19.56 | 45.6 | 0.00 | 0.32 |
| Season + Age + Weight | 5 | −17.53 | 46.4 | 0.79 | 0.22 |
| Age + Weight | 4 | −19.09 | 47.1 | 1.43 | 0.16 |
| Null model | 2 | −21.41 | 47.1 | 1.43 | 0.16 |
| Season + Weight | 4 | −19.22 | 47.3 | 1.69 | 0.14 |
| Season + Weight | 4 | −19.19 | 47.3 | 1.96 | 0.11 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Model-averaging coefficients** | | | | | | |
|  | **βf** | **SEg** | ***t*-value** | ***P-*value** | **95% CIh** | **RIi** |
| Intercept | 0.34 | 0.18 | 1.88 | 0.06 | [−0.02, 0.43] |  |
| Season (spring) | 0.21 | 0.12 | 1.80 | 0.07 | [−0.02, 0.45] | 0.68 |
| Age (subadults) | −0.31 | 0.17 | 1.82 | 0.07 | [−0.64, 0.02] | 0.52 |
| Weight (>100 kg) | −0.25 | 0.18 | 1.37 | 0.17 | [−0.61, 0.15] | 0.38 |

a df, degrees of freedom.

b LogLik, log-likelihood of the linear model.

c AICc, Akaike Information Criteria for small sample sizes.

d The difference between each model AICc and the smaller AICc value.

e w, Akaike weight.

f β, variable coefficient.

g SE, standard error.

h CI, confidence interval.

i RI, relative importance.

**Table S3. Characteristics of the highest ranked models explaining variation in the presence or absence of cereals ingested by brown bears throughout 2017 in Croatia, ordered by increasing AICc values. The highest ranked model-averaging parameters are presented at the bottom.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Models** | **dfa** | **LogLikb** | **AIC*c*c** | **∆AIC*c*d** | ***w*e** |
| Null model | 1 | −33.65 | 69.38 | 0.00 | 0.39 |
| Season | 2 | −33.11 | 70.47 | 1.08 | 0.22 |
| Sex | 2 | −33.22 | 70.70 | 1.31 | 0.20 |
| Region | 2 | −33.27 | 70.79 | 1.41 | 0.19 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Model-averaging coefficients** | | | | | | |
|  | **βf** | **SEg** | ***t-*value** | ***P-*value** | **95% CIh** | **RIi** |
| Intercept | −0.28 | 0.35 | 0.79 | 0.43 | [−0.98, 0.42] |  |
| Season (spring) | −0.16 | 0.43 | 0.35 | 0.72 | [−2.06, 0.67] | 0.22 |
| Sex (male) | −0.11 | 0.34 | 0.31 | 0.75 | [−1.71, 0.63] | 0.20 |
| Region (LK) | −0.11 | 0.35 | 0.29 | 0.77 | [−1.84, 0.74] | 0.19 |

a df, degrees of freedom.

b LogLik, log-likelihood of the linear model.

c AICc, Akaike Information Criteria for small sample sizes.

d The difference between each model AICc and the smaller AICc value.

e w, Akaike weight.

f β, variable coefficient.

g SE, standard error.

h CI, confidence interval.

i RI, relative importance.