Supplementary Materials

Title: Beyond ungulate density: prey switching and selection by the wolf in a recolonised area

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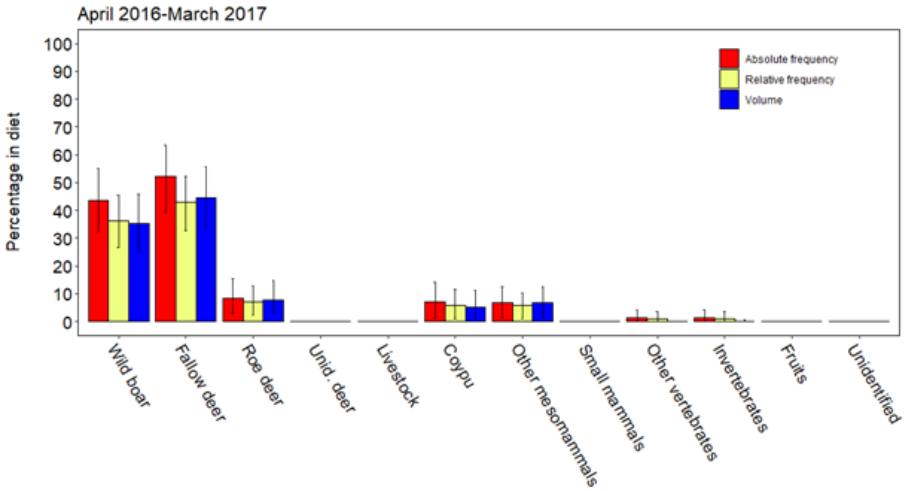
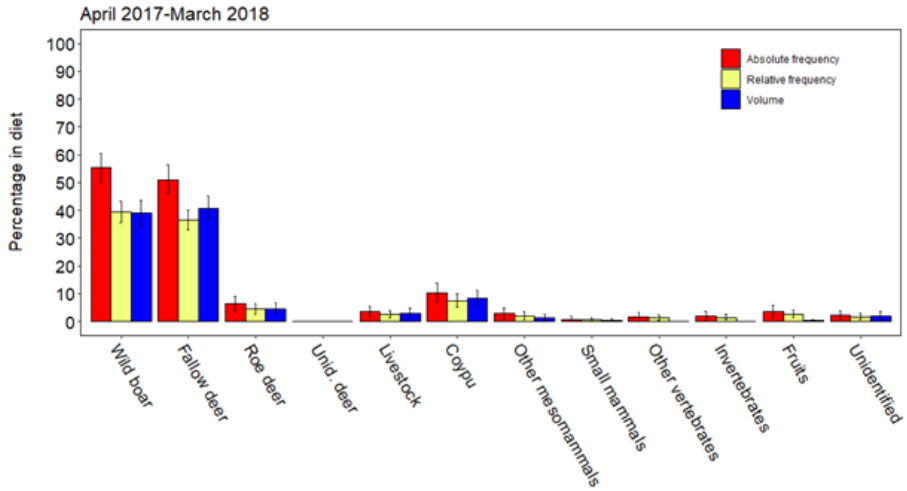

April 2016-March 2017
Percentage in diet
Absolute frequency
Relative frequency
Volume
Wild boar
Fallow deer
Roe deer
Unid. deer
Livestock
Coypu
Other mesomammals
Small mammals
Other vertebrates
Invertebrates
Fruits
Unidentified


April 2017-March 2018
Percentage in diet
Absolute frequency
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Volume
Wild boar
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Other mesomammals
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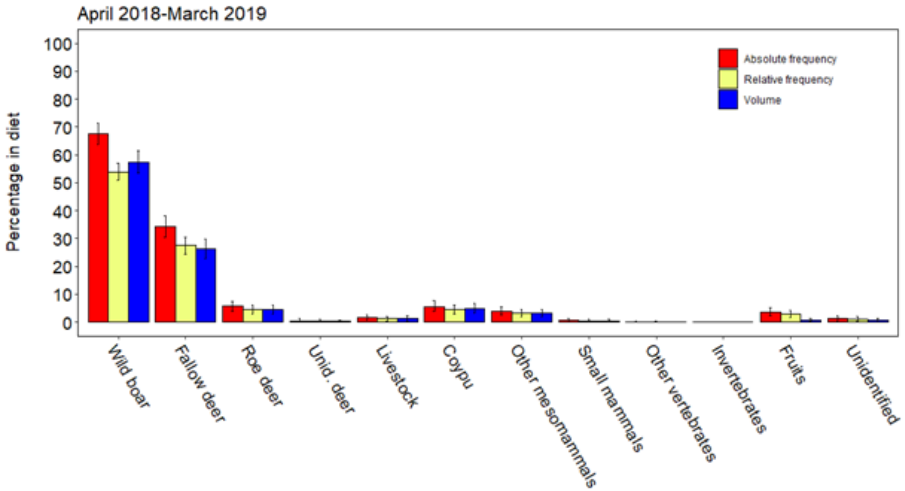
April 2018-March 2019
Percentage in diet
Absolute frequency
Relative frequency
Volume
Wild boar
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Roe deer
Unid. deer
Livestock
Coypu
Other mesomammals
Small mammals
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Invertebrates
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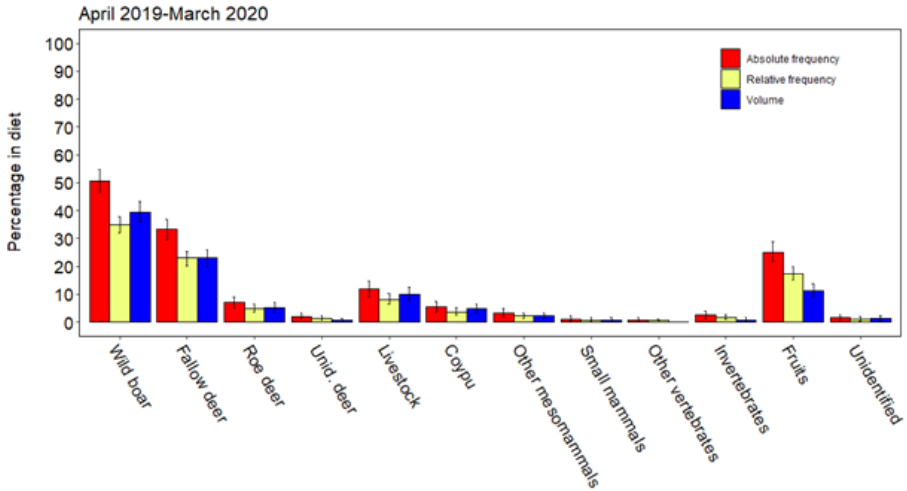
April 2019-March 2020
Percentage in diet
Absolute frequency
Relative frequency
Volume
Wild boar
Fallow deer
Roe deer
Unid. deer
Livestock
Coypu
Other mesomammals
Small mammals
Other vertebrates
Invertebrates
Fruits
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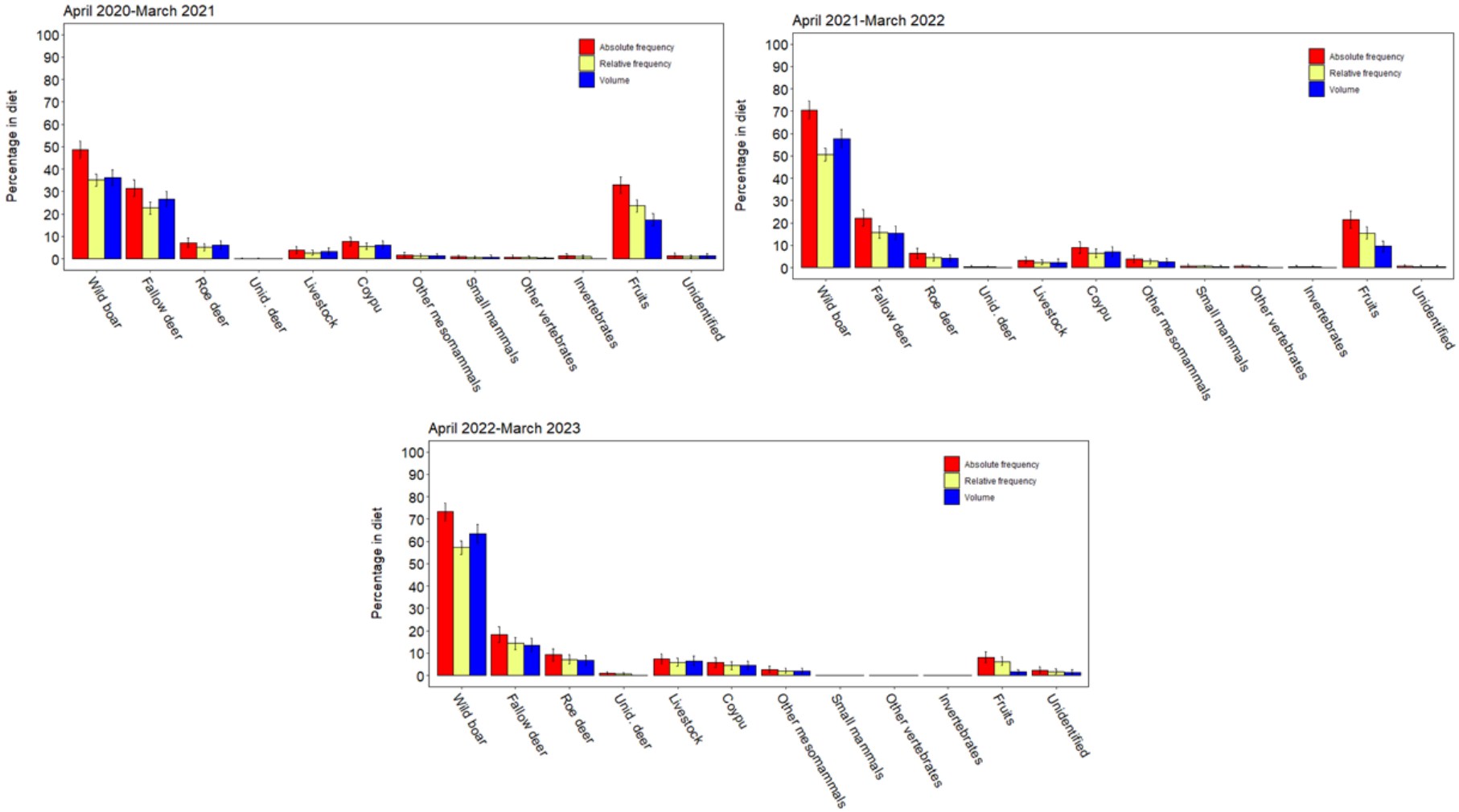

Figure 1. Absolute frequencies, relative frequencies, and volumes of the different food categories found in wolf faecal samples in Maremma Regional Park for each study year (from 2016 to 2023). Absolute frequencies are in red; Relative frequencies are in yellow; Volumes are in blue. Error bars indicate 95% confidence intervals estimated through bootstrap with 1000 resamplings.

Table 1S. Results of model selection for factors influencing seasonal and inter-annual variations of occurrence of different species of wild ungulates in the wolf diet estimated through generalized linear models with binomial errors. The top-ranked models are shown, together with their number of parameters, AICc, ΔAICc and standardized weight. The selected models are shown in bold.

Species	Model	Variables	K	logLik	AICc	ΔAICc	Weight
Wild boar	**Best**	**Season + Year progressive**	**5**	**-2084.281**	**4178.6**	**0.00**	**0.495**
	Second	Season + Year progressive + Season * Year progressive	8	-2081.330	4178.7	0.13	0.465
	Third	Year progressive	2	-2089.816	4183.6	5.05	0.040
	Fourth	Season	4	-2098.033	4204.1	25.50	0.000
Fallow deer	**Best**	**Season + Year progressive + Season * Year progressive**	**8**	**-1841.773**	**3699.6**	**0.00**	**1.000**
	Second	Season + Year progressive	5	-1853.941	3717.9	18.31	0.000
Roe deer	**Best**	**Season**	**4**	**-784.510**	**1577.0**	**0.00**	**0.375**
	Second	Season + Year progressive	5	-783.580	1577.2	0.15	0.348
	Third	Season + Year progressive	8	-780.802	1577.7	0.62	0.275
	Fourth	Year progressive	2	-792.430	1588.9	11.83	0.001
	Fifth	*Null*	1	-793.559	1589.1	12.09	0.001

Table 2S. Factors influencing seasonal variations of occurrence of different species of wild ungulates in the wolf diet estimated through generalized linear mixed models with binomial errors: post-hoc analyses for categorical predictors. The significant effects are shown in bold.

Species	Model	Variables	*B*	SE	95% CIs	*P-value*
Wild boar	Season	**Summer - Spring**	**0.333**	**0.120**	**[0.026, 0.641]**	**0.027**
		Autumn - Spring	0.185	0.115	[-0.109, 0.479]	0.367
		Winter - Spring	0.040	0.103	[-0.226, 0.305]	0.981
		Autumn - Summer	-0.148	0.114	[-0.441, 0.145]	0.562
		Winter - Summer	**-0.293**	**0.103**	**[-0.557, -0.030]**	**0.022**
		Winter - Autumn	-0.145	0.096	[-0.392, 0.102]	0.429
Fallow deer	Season	**Summer - Spring**	**0.403**	**0.122**	**[0.089, 0.717]**	**0.005**
		Autumn - Spring	-0.015	0.123	[-0.330, 0.300]	0.999
		Winter - Spring	**-0.579**	0.116	[-0.877, -0.281]	**<0.001**
		Autumn - Summer	**-0.418**	**0.116**	**[-0.716, -0.120]**	**0.002**
		Winter - Summer	**-0.982**	**0.109**	**[-1.263, -0.702]**	**<0.001**
		Winter - Autumn	**-0.564**	**0.109**	**[-0.845, -0.282]**	**<0.001**
Roe deer	Season	**Summer – Spring**	**-0.920**	**0.264**	**[-1.596, -0.244]**	**0.003**

Autumn – Spring	0.017	0.200	[-0.495, 0.529]	0.999
Winter – Spring	-0.185	0.188	[-0.665, 0.295]	0.753
Autumn – Summer	**0.937**	**0.254**	**[0.287, 1.587]**	**0.001**
Winter – Summer	**0.735**	**0.244**	**[0.110, 1.360]**	**0.014**
Winter - Autumn	-0.202	0.173	[-0.644, 0.240]	0.641