

# Biometrics measurements in Red foxes (*Vulpes vulpes*) in the Picentini area.

## Part I: Intrasexual differences between young adult and adult subjects.

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A series of biometrics measurements have been obtained in 16 Red foxes (*Vulpes vulpes*) duly hunted in the Picentini area, outside the protected area. Data recorded included the sex, bodyweight, and age class (young adults < 2 y.o.; adults > 2 y.o.) as determined on tooth wearing by an experienced wildlife operator. Occipito-coccygeal (OC), nasal-occipitalis (NO), tail and total lengths, wither height, ear and hind foot (HF) length, upper and lower canine length and width (UCL, LCL, UCW, LCW) and carnassial length and width (data not shown), were measured directly on the carcasses. Condilo-basal (CB), hard palate (HP), scapular, mandibular and upper dentition (UD) lengths, inter-carnassial (IC) and zygomatic (Z) width were measured on latero-lateral and ventro-dorsal radiograms.

A Wilcoxon sum rank test was applied to compare variables not normally distributed. For normally distributed variables, homoscedasticity was investigated by using a Levene's test, *post hoc* a Student's t test or a Welch ANOVA was applied. Significance was set at  $P < 0.05$ . Results are summarized in table 1.

	Female young adults (3)	Female adults (4)	Male young adults (3)	Male adults (6)
Weight (kg)	3.33±0.11 <sup>b</sup>	4.42±0.82 <sup>a</sup>	4.88±0.55 <sup>b</sup>	6.06±0.26 <sup>a</sup>
OC (cm)	42.00±1.32	43.37±0.48	43.50±0.50 <sup>b</sup>	50.33±3.73 <sup>a</sup>
NO (cm)	14.26±0.35	15.18±0.78	15.70±0.82	16.63±0.81
Tail (cm)	27.10±0.36	29.37±4.96	36.00±1.00	35.00±5.66
Total (cm)	83.35±1.77	87.93±5.11	95.20±2.28	101.97±5.76
Withers (cm)	31.60±0.36	32.45±0.52	34.33±0.58 <sup>B</sup>	36.28±1.00 <sup>A</sup>
Ear (cm)	7.56±0.50	7.83±0.65	8.30±0.23 <sup>b</sup>	9.72±0.74 <sup>a</sup>
HF (cm)	10.80±1.03 <sup>b</sup>	13.02±1.07 <sup>a</sup>	13.89±0.86	13.18±0.36
UCL (cm)	1.52±0.16	1.73±0.16	1.80±0.24	2.02±0.11
LCL (cm)	1.04±0.01 <sup>b</sup>	1.31±0.14 <sup>a</sup>	1.50±0.16	1.66±0.07
UCW (cm)	0.68±0.03	0.69±0.05	0.67±0.03 <sup>b</sup>	0.82±0.04 <sup>a</sup>
LCW (cm)	0.54±0.005 <sup>b</sup>	0.59±0.03 <sup>a</sup>	0.62±0.01	0.75±0.08
CB (cm)	12.58±0.39 <sup>b</sup>	13.88±0.55 <sup>a</sup>	13.92±0.15	14.51±0.64
HP (cm)	6.61±0.26	7.23±0.69	7.26±0.13	7.92±0.78
Scapula (cm)	7.44±0.17 <sup>b</sup>	8.03±0.17 <sup>a</sup>	9.42±0.63	9.35±0.28
Mandible (cm)	8.83±0.14 <sup>b</sup>	10.06±0.43 <sup>a</sup>	10.37±0.27 <sup>b</sup>	11.09±0.38 <sup>a</sup>
UD (cm)	6.95±0.21	7.32±0.28	7.54±0.33	7.87±0.23
IC (cm)	3.47±0.06	3.57±0.07	3.69±0.16	3.90±0.10
Zygomatic (cm)	5.37±0.06 <sup>b</sup>	5.74±0.18 <sup>a</sup>	5.62±0.57 <sup>b</sup>	6.59±0.05 <sup>a</sup>

Table 1: mean±SD of the single variables categorized in age classes within sexes. A-B  $P \leq 0.01$ ; a-b  $P \leq 0.05$ .

Key words: *Vulpes vulpes*, biometrics measurements, young adults, adults.