

STRUCTURE OF GROUND SQUIRREL (*SPERMOPHILUS CITELLUS*) POPULATION AT M. R. ŠTEFÁNIK AIRPORT IN BRATISLAVA

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The stake with a snare near used burrow



The non-used burrow



The catchment areas at the airport M. R. Štefánik



The gopher catching



EVALUATED MATERIAL OF *SPERMOPHILUS CITELLUS*

Evaluated material of *Spermophilus citellus* consists of 396 individuals caught in April 2004, 2005 and 2006, in August 2003 and 2004. The age and sex structure and biometry of somatic characteristics of caught population is elaborated statistically.



The somatic characteristics measurement

SOMATIC CHARACTERISTICS BIOMETRY OF *SPERMOPHILUS CITELLUS*

We used statistical processing of the data, namely the descriptive statistics and analytical tool Anova. We have confirmed that the length of hind foot is the most stable determining characteristics. The weight is very variable characteristics. We have found significant differences in mean values of somatic characteristics between sexes in adult individuals; in juvenile individuals only some characteristics show significant differences. The higher mean values are seen in adult individuals and in the every age category of the males.

Somatic characteristics of *Spermophilus citellus*

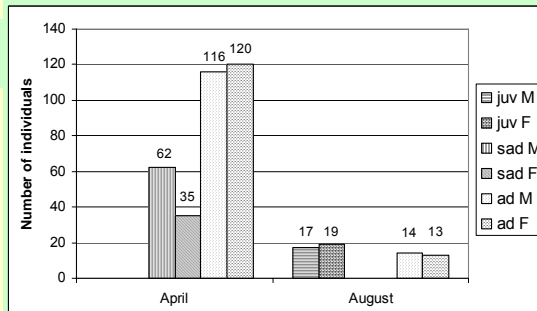
The group	Somatic characteristics	N.I.	M.V.	Median	Modus	D.	Min	Max
Adult individuals F+M	weight (g)	162	242,46	240	260	31,89	181	382
	Tail (mm)	255	66,93	67	69	6,21	38	83
	Hind foot (mm)	262	36,38	36	36	1,97	31	41
Adult females	weight (g)	133	227,98	226	200	28,48	181	326
	Tail (mm)	128	65,2	66	64	6,33	38	82
	Hind foot (mm)	133	35,62	36	36	1,63	31	39
Adult males	weight (g)	129	257,38	255	260	28,21	220	382
	Tail (mm)	127	68,67	69	69	5,59	45	83
	Hind foot (mm)	129	37,16	37	38	1,99	37	41
Subadult individuals F+M	weight (g)	97	195,43	199	220	21,5	115	220
	Tail (mm)	93	66,77	66	65	3,12	60	72
	Hind foot (mm)	97	35,94	36	35	2,02	31	40
Subadult females	weight (g)	35	192,11	199	220	25,8	115	220
	Tail (mm)	35	66,63	66	70	3,25	60	72
	Hind foot (mm)	35	35,03	35	35	1,56	32	38
Subadult males	weight (g)	62	199,38	199,5	220	14,78	177	220
	Tail (mm)	58	66,94	66	65	3,04	62	71
	Hind foot (mm)	62	36,46	37	37	2,07	31	40
Juvenile individuals F+M	weight (g)	35	181,27	180	220	25,13	117	220
	Tail (mm)	35	65,34	65	64	5,68	42	81
	Hind foot (mm)	35	35,23	35	34	3,6	30	48
Juvenile females	weight (g)	19	161,54	164	156	12,76	136	180
	Tail (mm)	19	63,09	63	64	5,83	42	75
	Hind foot (mm)	19	34,95	35	35	3,55	30	47
Juvenile males	weight (g)	16	192,4	198,5	220	23,53	117	220
	Tail (mm)	16	66,71	66	66	5,18	59	81
	Hind foot (mm)	16	35,56	34,5	34	3,78	32	40

N.I. – number of individuals, M.V. – the mean value, D. – the deviation

THE SEX AND AGE STRUCTURE OF *SPERMOPHILUS CITELLUS*

We found out that sex ratio of caught population is statistically balanced, even though there is moderate prevalence of the male individuals. The adult individuals prevail over young individuals, as these occur only in certain months.

The age and sex structure of the *Spermophilus citellus* population at the airport M. R. Štefánik



The sex ratio (males : females) in catching time

Catching date	juv – 36 ex.			sad – 97 ex.			ad – 263 ex.			Total		
	M	F	M:F	M	F	M:F	M	F	M:F	M	F	M:F
18.-20.8.2003	8	8	1				8	7	1,14	16	15	1,07
20.-22.4.2004				14			46	32	1,44	60	32	1,88
18.-20.8.2004	9	11	0,82				6	6	1	15	17	0,88
27.-29.4.2005				15	6	2,5	36	47	0,77	51	53	0,96
10.-13.4.2006				9	18	0,5	19	21	0,9	28	39	0,72
19.-21.4.2006				24	11	2,18	15	20	0,75	39	31	1,26
Total	17	19	0,89	62	35	1,77	130	133	0,98	209	187	1,12



The box and cage used for gophers' transfer

THE DENSITY OF THE *SPERMOPHILUS CITELLUS* POPULATION AT THE AIRPORT

We have recorded 600 gopher burrows (vertical and sloping tunnels) in 1 hectare. The high density of gopher population at the airport M.R. Štefánik is the result of following factors:

- rich food supply – herbal ground cover, corn and wheat fields in the surrounding
- the regulation of any striking human impact
- the herbal ground cover is regularly mowed and it is not chemically treated
- the ample space for young ones to settle before hibernation
- the predator pressure regulation



Typical crinkling of the gopher when seeing a danger



THE *SPERMOPHILUS CITELLUS* RESTITUTION

The caught and analyzed individuals of *Spermophilus citellus* are the basis for the creation of the new populations in two localities of the restitution – the pasture areas near Kuchyňa and Klátová Nová Ves municipalities. By their restitution we are aiming to create the gopher populations stable and capable of reproduction.

The equality of mean values of somatic characteristics testing

Somatic characteristics	AD – M.V.			SAD – M.V.			JUV – M.V.		
	M	F	P Anova	M	F	P Anova	M	F	P Anova
weight (g)	257,4	227,9	3,12.10 ^{-5**}	199,4	192,1	0,33	192,4	161,5	1,57.10 ^{-11**}
tail (mm)	68,67	65,2	5,77.10 ^{-6**}	66,94	66,63	0,78	66,71	63,09	0,003*
hind foot (mm)	37,16	35,62	5,85.10 ^{-11**}	36,46	35,03	0,0006*	35,56	34,95	0,62

M.V. – mean values, AD – adult individuals, SAD – subadult individuals, JUV – juvenile individuals, M – males, F – females, * – significant difference, ** – very significant difference