

Supplementary material

Accumulation of U, Th, Pb, V, Rb and Ag in wild mushrooms *Macrolepiota procera* (Scop.)

Singer from Goč, Serbia

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Figure S1. Preprocessed data for the content of elements (Pb - 1, V - 2, Rb - 3, Ag - 4, Th - 5 and U - 6, respectively) in two mushroom parts (cap – red line, stipe – green line)

Table A. Soil properties

Table B. Elements determined in standard reference material SRM 1633c (coal fly ash) and certified reference material BCR-670 (duck weed)

Table C. Correlation matrix between BCR sequential extraction phases, pseudo-total and mushroom parts for each analysed element separately

Table D. Kruskal-Wallis test applied on the results of element content in four phases of BCR extraction and each part of mushroom

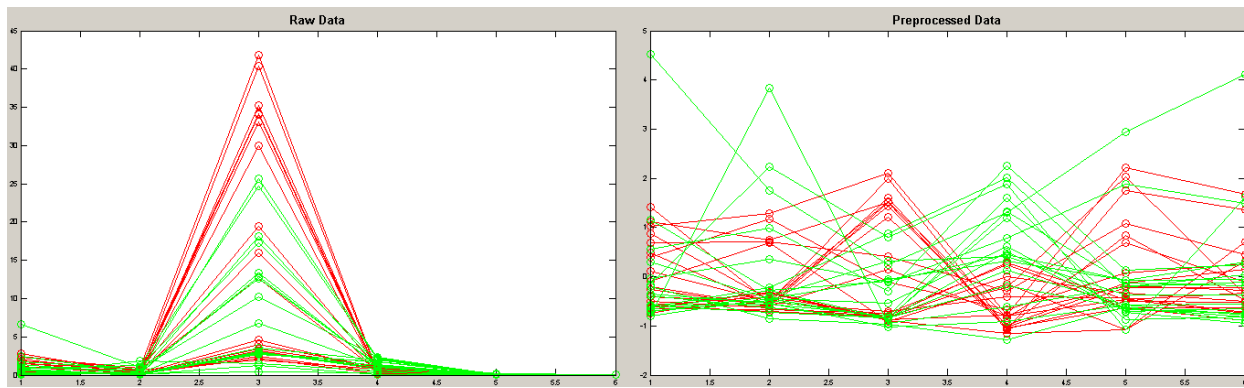


Figure S1. Preprocessed data for the content of elements (Pb - 1, V - 2, Rb - 3, Ag - 4, Th - 5 and U - 6, respectively) in two mushroom parts (cap – red line, stipe – green line)

Table A. Soil properties

Parameter	Mean value in examined soils
pH	6.0-6.2
Corg (%)	2.1-3.8
Eh (mV)	363-367
EC (mS)	200-266

Table B. Elements determined in standard reference material SRM 1633c (coal fly ash) and certified reference material BCR-670 (duck weed)

NIST SRM 1633c	Constituent	Certified value ± uncertainty* (mg/kg)	Found value ± uncertainty (mg/kg)
	U	9.25 ± 0.45	9.01 ± 0.68
	Th	23.0 ± 0.4	22.2 ± 0.9
	V	286.2 ± 7.9	288.3 ± 6.5
	Rb	117.42 ± 0.53	115.22 ± 0.44
	Pb	95.2±2.5	91.5 ± 3.8
BCR 670	Constituent	Certified value ± uncertainty* (µg/kg)	Found value ± uncertainty (µg/kg)
	U	82 ± 8	75 ± 9
	Th	159 ± 18	162 ± 6
	Pb	2060±120	2051 ± 85

* Uncertainty for 95 % confidence level (coverage factor k = 2)

Table C. Correlation matrix between BCR sequential extraction phases, pseudo-total and mushroom parts for each analyzed element separately

<i>Pb</i>	F1	F2	F3	F4	PT	Cap	Stipe
F1	1.000						
F2	0.645	1.000					
F3	0.263	0.476	1.000				
F4	0.283	0.783	0.610	1.000			
PT	0.547	0.969	0.588	0.911	1.000		
Cap	0.186	0.662	0.356	0.476	0.625	1.000	
Stipe	0.024	0.278	0.331	0.215	0.277	0.367	1.000

<i>V</i>	F1	F2	F3	F4	PT	Cap	Stipe
F1	1.000						
F2	0.000	1.000					
F3	-0.165	0.000	1.000				
F4	0.372	0.000	-0.140	1.000			
PT	0.368	0.000	-0.099	0.999	1.000		
Cap	-0.132	0.000	0.628	-0.049	-0.024	1.000	
Stipe	0.118	0.000	0.361	0.300	0.317	0.389	1.000

<i>Rb</i>	F1	F2	F3	F4	PT	Cap	Stipe
F1	1.000						
F2	0.719	1.000					
F3	0.322	0.374	1.000				
F4	0.813	0.482	0.196	1.000			
PT	0.834	0.524	0.288	0.995	1.000		
Cap	0.657	0.731	0.333	0.345	0.383	1.000	
Stipe	0.664	0.682	0.422	0.278	0.325	0.828	1.000

<i>Ag</i>	F1	F2	F3	F4	PT	Cap	Stipe
F1	1.000						
F2	0.081	1.000					
F3	-0.154	-0.232	1.000				
F4	0.640	0.064	0.230	1.000			
PT	0.471	-0.111	0.776	0.727	1.000		
Cap	0.860	0.061	-0.037	0.769	0.542	1.000	
Stipe	0.063	-0.105	-0.178	-0.222	-0.178	-0.015	1.000

<i>Th</i>	F1	F2	F3	F4	PT	Cap	Stipe
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F1	1.000						
F2	0.305	1.000					
F3	-0.125	-0.466	1.000				
F4	0.340	0.417	0.261	1.000			
PT	0.337	0.398	0.293	0.999	1.000		
Cap	0.070	0.318	-0.153	0.208	0.200	1.000	
Stipe	0.157	0.368	-0.207	0.107	0.100	0.187	1.000

<i>U</i>	F1	F2	F3	F4	PT	Cap	Stipe
F1	1.000						
F2	0.233	1.000					
F3	0.657	0.513	1.000				
F4	0.662	0.114	0.527	1.000			
PT	0.756	0.439	0.945	0.776	1.000		
Cap	-0.144	-0.002	-0.015	-0.009	-0.019	1.000	
Stipe	0.018	0.154	0.160	0.026	0.128	0.569	1.000

Table D. Kruskal-Wallis test applied on the results of element content in four phases of BCR extraction and each part of mushroom

	Chi square^a	P	Z-value^b
Pb	101.61	<0.0001	F1(F2,F3,F4,PT,Cap) F2(F1,F3,Cap,Stipe) F3(F1,F2,F4,PT) F4(F1,F3,PT,Cap,Stipe) PT(F1,F3,F4,Cap,Stipe) Cap(F1,F2,F4,PT) Stipe(F2,F4,PT)
V	117.02	<0.0001	F1(F3,F4,PT,Stipe) F2(F3,F4,PT,Cap,Stipe) F3(F1,F2,F4,PT,Cap,Stipe) F4(F1,F2,F3, Cap,Stipe) PT(F1,F2,F3, Cap,Stipe) Cap(F2,F3,F4,PT) Stipe(F1,F2,F3,F4,PT)
Rb	102.25	<0.0001	F1(F3,F4,PT, Cap,Stipe) F2(F4,PT, Cap,Stipe) F3(F1,F4,PT, Cap,Stipe) F4(F1,F2,F3) PT(F1,F2,F3) Cap(F1,F2,F3) Stipe(F1,F2,F3)
Ag	67.39	<0.0001	F1(F3,PT, Cap,Stipe) F2(F3,F4,PT, Cap,Stipe) F3(F1,F2,Stipe) F4(F2,Stipe) PT(F1,F2,Stipe) Cap(F1,F2,Stipe) Stipe(F1,F2,F3,F4,PT,Cap)
Th	105.22	<0.0001	F1(F3,F4,PT) F2(F3,F4,PT,Cap, Stipe) F3(F1,F2,F4,PT,Cap, Stipe) F4(F1,F2,F3, Cap, Stipe) PT(F1,F2, Cap, Stipe) Cap(F2,F3,F4,PT) Stipe(F2,F3,F4,PT)
U	106.82	<0.0001	F1(F3,F4,PT) F2(F3,F4,PT, Cap, Stipe) F3(F1,F2, Cap, Stipe) F4(F1,F2, Cap, Stipe) PT(F1,F2, Cap, Stipe) Cap(F3,F4,PT) Stipe(F3,F4,PT)

^a $\chi^2_{cr(df(6);\alpha=0.05)} = 12.59$

^bRegular test: Medians significantly different if z-value > 1.9600