

BETLES (COLEOPTERA) OF THE SOUTHERN PART OF STRÁŽOVSKÉ VRCHY MTS. WITH SPECIAL REFERENCE TO BIOINDICATIVELY SIGNIFICANT SPECIES

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FRANC, V., 2004: Beetles (Coleoptera) of the southern part of the Strážovské vrchy Mts. *Entomofauna carpathica*, 16: 49- 55

Abstract: This paper deals with distribution, vulnerability and bioindicative value of the scarcer beetles (Coleoptera) of the Strážovské vrchy Mts. Although this territory is out of the 'Protected Landscape Area (PLA) Strážovské vrchy' established in 1989, it is extraordinarily valuable from entomological, arachnological and botanical points of view. This area is prevalingly covered by warm deciduous forests and xerothermic rocky grasslands. The rarest and most remarkable beetle species include *Satrapes sartorii*, *Attaephilus arenarius*, *Euconnus chrysocomus*, *Centrotoma lucifuga*, *Anthaxia olympica*, *Agrilus croaticus*, *Microrhagus emyi*, *M. lepidus*, *M. pygmaeus*, *Dromaeolus barnabita*, *Benibotarus taygetanus*, *Allonyx quadrimaculatus*, *Lichenophanes varius*, *Biphylus lunatus*, *Mycetophagus fulvicollis*, *Meloe brevicollis*, *Calamobius filum*, *Antipus macropus*, *Cryptocephalus quatuordecimmaculatus* and *Pseudochoragus piceus*. This area apparently deserves the special territorial protection. The necessity of the 'PLA Strážovské vrchy' widening is also discussed in this paper.

Key words: Coleoptera, Slovakia, southern part of the Strážovské vrchy Mts.

INTRODUCTION

The Protected Landscape Area (PLA) Strážovské vrchy has been established in both northern and central part of this orographic area, while southern part is out of the territorial protection. It is obvious according to a map, that approximately 45 % of this orographic area is not protected. On the other hand, this "forgotten" territory of xerothermic rocky grasslands and open deciduous forests is highly valuable from both botanical and zoological point of view. Surprisingly, the data concerning beetles (and another insects, spiders, etc.) are practically missing in accessible papers.

I have occasionally dealt with research of beetles (and later spiders as well) of this territory during the years 1993 – 2003. Presented preview of beetles is only preliminary, nevertheless it contains a lot of rare and remarkable species. I would like to call attention to the territorial protection of this region.

MATERIAL AND METHODS

My research of beetles has been carried out in the following sites:

Surroundings of 'Dolné Vestenice' village (7276c)* and 'Horné Vestenice' village (7276d). Habitats: xerothermic rocky

pastures, abandoned orchards, shrubby slopes, open oak-and-pine forest;

'Hradištnica' valley (7276c) and 'Stredná dolina' valley (7276c). Habitats: xerothermic rocky and scree slopes, open oak-beech-and-pine forest, ancient beech forest in the close part of the first valley;

'Nitrianske Rudno' village (7176d/7276b). Habitats: xerothermic meadows and pastures (often abandoned), open deciduous forest and shrubbery.

The beetles were obtained by current methods of collecting. The material was determined according the key by FREUDE, HARDE & LOHSE (1964, 1967, 1969, 1971, 1974, 1979) and the further accessible publications (BALTHASAR 1957).

The scarcer beetle species are often mentioned in Red Lists of separate European countries; it concerns the Red List of Slovakia (HOLECOVÁ & FRANC 2001), Austria (FRANZ 1983, GEISER 1983), Germany (GEISER et al. 1984), Belgium (LECLERCQ et al. 1980), Denmark (ASBIRK & SOGAARD 1991), Great Britain (HYMAN & PARSONS 1992, 1994), Norway (SKAUGE et al. 1992), Sweden (EHNSTRÖM, GÄRDENFORS & LINDELÖW 1993) and Finland (RASSI et al. 1992). Their ecosozological status (ESS) in separate countries is also discussed in the table 1.

* the grid mapping code of the Databank of the Slovakian fauna, a letter indicates 1st, 2nd, 3rd or 4th quadrant of the mapping square

RESULTS – SYSTEMATIC REVIEW OF SPECIES

Table 1: Review of scarcer beetles (Coleoptera) of the investigated territory

Family/Species	Site	Ecosozological status									
		Sk	A	D	B	Dk	GB	N	Sw	F	
Carabidae											
<i>Carabus convexus</i> Fabricius, 1775	Hr ₂			G	□	D			EN	V	D
<i>C. intricatus</i> Linnaeus, 1761	Hr ₂			G	□	V	EN			EN	
<i>C. coriaceus</i> Linnaeus, 1758	Hr ₂				□						
<i>Aptinus bombardia</i> (Illiger, 1800)	Hr ₁					VAb					
<i>Olisthopus sturmi</i> (Duftschmid, 1812)	Hr ₁					G					
1 <i>Callistus lunatus</i> (Fabricius, 1775)	NR		Pg	G	□		EN				
<i>Panagaeus bipustulatus</i> (Fabricius, 1775)	HV				□	V	N		IK		
<i>Lebia crux-minor</i> (Linnaeus, 1758)	Sd					V	EN		Ex		
<i>L. cyanocephala</i> (Linnaeus, 1758)	HV					Sg	Ex	EN		V	Ex

Family/Species	Site	Sk	Ecosozological status								
			A	D	B	Dk	GB	N	Sw	F	
<i>Cymindis axillaris</i> (Fabricius, 1794)	HV		Pg	Sg				N			
<i>Drypta dentata</i> (Rossi, 1790)	DV HV		Sg	G				EN			
Histeridae											
● <i>Satrapes sartorii</i> (Redtenbacher, 1858)	HV Sd	V	VAb								
<i>Hetaerius ferrugineus</i> (Olivier, 1789)	NR DV	LR nt					I		R		
Silphidae											
<i>Ablattaria laevigata</i> (Fabricius, 1775)	HV			G	□						
Leiodidae											
2 <i>Nemadus colonoides</i> (Kraatz, 1851)	DV	LR nt								CD	
● <i>Attaephilus arenarius</i> (Hampe, 1852)	DV	V	VAb								
Scydmaenidae											
● <i>Euconnus chrysocomus</i> (Saulcy, 1864)	DV	V									
<i>Scydmaenus hellwigi</i> (Herbst, 1792)	DV			G							
Dasyceridae											
<i>Dasycerus sulcatus</i> Brongniart, 1800	Hr ₂										
Staphylinidae											
<i>Metopsia similata</i> Zerche, 1998	DV										
3 <i>Onholestes haroldi</i> (Eppelsheim, 1884)	DV										
4 <i>Staphylinus (Abemus) chloropterus</i> Panzer, 1796	DV	LR nt									
<i>Quedius lateralis</i> (Gravenhorst, 1802)	Hr ₂										
<i>Euryusa sinuata</i> Erichson, 1837	Hr ₂						I		V		
5 <i>Lomechusa emarginata</i> (Paykull, 1789)	NR						N				
6 <i>Oxyptoda vittata</i> Märkel, 1842	Hr ₂										
Pselaphidae											
7 <i>Batrisus formicarius</i> Aubé, 1833	Hr ₂						Ex♦				
8 <i>Batrisodes buqueti</i> (Aubé, 1833) [= <i>slovenicus</i> Machulka, 1923]	NR	V	VAb	Sg							
● <i>Centrotoma lucifuga</i> Heyden, 1849	NR	V	VAb	Sg							
<i>Tyrus mucronatus</i> (Panzer, 1805)	Hr ₂										
Clavigeridae											
<i>Claviger testaceus</i> Preyssler, 1790	NR	LR nt		G			N			D	
Trogidae											
<i>Trox hispidus</i> (Pontoppidan, 1763)	DV										
Scarabaeidae											
<i>Sisyphus schaefferi</i> (Linnaeus, 1758)	DV HV	LR nt	Sg	Sg	□						
<i>Copris lunaris</i> (Linnaeus, 1758)	HV	LR nt	Sg	VAb	□		EN	Ex	V		
<i>Euoniticellus fulvus</i> (Goeze, 1777)	HV										
<i>Aphodius brevis</i> Erichson, 1848	NR			VAb			EN				
<i>A. rufus</i> (Moll, 1782)	HV										
9 <i>Gnorimus variabilis</i> (Linnaeus, 1758) [= <i>octopunctatus</i> (Fabricius, 1775)]	Sd	V					EN		EN		
10 <i>Liocola lugubris</i> (Herbst, 1786)	Sd	V		Sg				V	CD	D	
Buprestidae											
<i>Acmaeoderella flavofasciata</i> (Piller & Mitterpacher, 1783)	Sd			VAb							
<i>Dicerca berlinensis</i> (Herbst, 1779)	Hr ₁			Sg							
11 <i>Anthaxia olympica</i> Kiesenwetter, 1857	DV		Sg								
<i>Coraebus elatus</i> (Fabricius, 1787)	DV			VAb							
12 <i>Agrilus croaticus</i> Abeille de Perrin, 1897	HV	EN	Sg								
Elateridae											
13 <i>Calambus bipustulatus</i> (Linnaeus, 1767)	Hr ₂			G		V	N	IK	V		
14 <i>Hypoganus inunctus</i> (Panzer, 1795)	Hr ₂			G		X		R	CD		
<i>Ampedus elongatulus</i> (Fabricius, 1787)	Sd	LR nt		G			N		Ex		
15 <i>A. rufipennis</i> (Stephens, 1830)	NR			Sg		V	V	V	EN		
<i>A. sinuatus</i> Germar, 1844	DV			VAb							
<i>Porthmidius austriacus</i> (Schränk, 1781)	Hr ₂			VAb			Ex♦				
<i>Quasimus minutissimus</i> (Germar, 1817)	DV										
<i>Cardiophorus vestigialis</i> Erichson, 1840	Hr ₁ Sd						V				
Eucnemidae											
<i>Melasis buprestoides</i> (Linnaeus, 1761)	Hr ₂		Pg	G		EN	N	R		V	
● <i>Dromaeolus barnabita</i> (A. & G. B. Villa, 1838)	Hr ₂	V		VAb		Ex	Ex♦		EN		
16 <i>Microrhagus emyi</i> (Rouget, 1855)	Sd	V		VAb					EN		
17 <i>M. lepidus</i> Rosenhauer, 1847	Hr ₂	V		VAb			R	V	CD		
18 <i>M. pygmaeus</i> (Fabricius, 1792)	Hr ₂	V		Sg							
Lycidae											
● <i>Benibotarus taygetanus</i> (Pic, 1905)	Hr ₂	V		VAb							

Family/Species	Site	Sk	A	Ecosozological status							
				D	B	Dk	GB	N	Sw	F	
Lampyridae											
<i>Phosphaenus hemipterus</i> (Geoffroy, 1762)	Hr ₂			G			EN				
Drilidae											
19 <i>Drilus concolor</i> (Ahrens, 1812)	Hr ₂										
Dermestidae											
<i>Attagenus punctatus</i> (Scopoli, 1772)	HV			Sg					V		
<i>Trinodes hirtus</i> (Fabricius, 1781)	Hr ₂			G		D	R		CD		
Bostrichidae											
20 <i>Lichenophanes varius</i> (Illiger, 1801)	Sd	V		VAb							
Anobiidae											
<i>Oligomerus brunneus</i> (Olivier, 1790)	Hr ₂			Sg					V		
21 <i>Gastrallus laevigatus</i> (Olivier, 1790)	HV			Sg							
<i>Xyletinus ater</i> (Creutzer, 1796)	Hr ₂						Ex [?]				
<i>Dorcatoma chrysomelina</i> Sturm, 1837	Hr ₁		Sg	Sg			X				
Trogositidae											
<i>Thymalus limbatus</i> (Fabricius, 1787)	Hr ₂			G		V	N			R	
22 <i>Grynocharis oblonga</i> (Linnaeus, 1758)	NR			VAb					V		
Cleridae											
<i>Tillus elongatus</i> (Linnaeus, 1758)	Hr ₂		Pg	G	□	X	N		CD		
<i>Trichodes favarius</i> (Illiger, 1802)	DV Hr ₁										
<i>Clerus mutillarius</i> Fabricius, 1775	Sd		Pg	VAb							
<i>Opilo mollis</i> (Linnaeus, 1758)	Hr ₂						N				
● <i>Allonyx quadrimaculatus</i> (Schaller, 1783)	NR	V		VAb	□						
<i>Necrobia rufipes</i> (De Geer, 1775)	Sd				□	X					
Dasytidae											
<i>Dolichosoma lineare</i> (Rossi, 1792)	DV Hr ₂										
Nitidulidae											
<i>Omosita depressa</i> (Linnaeus, 1758)	Sd										
<i>Soronia grisea</i> (Linnaeus, 1758)	Hr ₂										
23 <i>Amphotis marginata</i> (Fabricius, 1781)	Hr ₂						IK		CD		
<i>Cyllodes ater</i> (Herbst, 1792)	Hr ₂					Ex			EN	Ex	
<i>Thalycra fervida</i> (Olivier, 1790)	Sd										
Cucujidae											
24 <i>Cucujus cinnaberinus</i> (Scopoli, 1763)	Hr ₂	LR nt	Sg	VAb					EN	EN	
25 <i>Pediacus dermestoides</i> (Fabricius, 1792)	Hr ₂	LR nt	VAb	VAb		Ex					
26 <i>Laemophloeus monilis</i> (Fabricius, 1787)	Hr ₂	V		G			EN		V		
<i>Uleiota planata</i> (Linnaeus, 1761)	Hr ₂					R	N		EN	EN	
Biphyllidae											
● <i>Biphyllus lunatus</i> (Fabricius, 1792)	NR	EN		VAb		V			EN	Ex	
<i>Diplocoelus fagi</i> Guérin-Ménéville, 1844	Hr ₂			G		R	N		R		
Erotylidae											
<i>Triplax rufipes</i> (Fabricius, 1775)	Sd Hr ₂		Pg	VAb		Ex					
Endomychidae											
27 <i>Symbiotes gibberosus</i> (Lucas, 1849)	Hr ₂		Pg	VAb		Ex			R		
28 <i>Lycoperdina bovistae</i> (Fabricius, 1792)	Hr ₂		Sg	G			R				
Colydiidae											
<i>Synchita humeralis</i> (Fabricius, 1792)	Hr ₂						N				
29 <i>Coxelus pictus</i> (Sturm, 1807)	Hr ₂			VAb							
30 <i>Pycnomerus terebrans</i> (Olivier, 1790)	DV	V	Sg	Sg			Ex♦				
Mycetophagidae											
<i>Triphyllus bicolor</i> (Fabricius, 1792)	Hr ₂			G							
<i>Mycetophagus quadriguttatus</i> Müller, 1821	DV			G			N		V	Ex	
31 <i>M. fulvicollis</i> Fabricius, 1792	Sd	LR nt	Sg	VAb		Ex	Ex		V		
Tetratomidae											
<i>Tetratoma ancora</i> Fabricius, 1790	Hr ₂			Sg			N		CD		
Melandryidae											
32 <i>Hallomenus binotatus</i> (Quensel, 1790)	Hr ₂						N				
<i>Orchesia micans</i> (Panzer, 1795)	Hr ₂						N		V		
<i>O. fasciata</i> (Illiger, 1798)	HV, Hr ₂			Sg				R			
33 <i>O. undulata</i> Kraatz, 1853	Hr ₂			G						R	
<i>Phloiotrya rufipes</i> (Gyllenhal, 1810)	Hr ₁			Sg				R	CD		
34 <i>Hypulus bifasciatus</i> (Fabricius, 1792)	DV	LR nt	Sg	VAb					CD		
35 <i>Melandrya caraboides</i> (Linnaeus, 1761)	Hr ₁	LR nt	Pg	G		X	N	V	V		
<i>Osphya bipunctata</i> (Fabricius, 1775)	Hr ₂			Sg			R	R	V		

Family/Species	Site	Sk	A	Ecosozological status						
				D	B	Dk	GB	N	Sw	F
Aderidae										
<i>Aderus populneus</i> (Creutzer, 1796)	Hr ₂			Sg		X		IK		
<i>Anidorus</i> [= <i>Aderus</i>] <i>nigrinus</i> (Germar, 1831)	Hr ₁									
Meloidae										
<i>Meloe proscarabaeus</i> Linnaeus, 1758	HV			G		X			CD	EN
36 <i>M. brevicollis</i> Panzer, 1793	HV	V		Sg			EN	Ex	EN	Ex
<i>M. rugosus</i> Marsham, 1802	DV	V		VAb			R			
Scaptiidae										
<i>Cyrtanaspis phalerata</i> (Germar, 1831)	Hr ₁								V	IK
Salpingidae										
<i>Lissodema denticolle</i> (Gyllenhal, 1813)	HV						N			
<i>Vincenzellus ruficollis</i> (Panzer, 1794) [= <i>viridipennis</i> (Latreille, 1804)]	Hr ₂			G		X			V	
<i>Salpingus</i> [= <i>Rhinosimus</i>] <i>planirostris</i> (Fabricius, 1787)	Hr ₂									
<i>S.</i> [= <i>Rhinosimus</i>] <i>ruficollis</i> (Linnaeus, 1761)	Hr ₂	V								
Alleculidae										
37 <i>Prionychus melanarius</i> (Germar, 1813)	Sd			VAb			V		V	R
<i>Hymenalia rufipes</i> (Fabricius, 1792)	Sd Hr ₁			VAb		R				
Tenebrionidae										
<i>Pedinus femoralis</i> (Linnaeus, 1767)	DV Hr ₁		Pg	VAb						
38 <i>Neomida</i> [= <i>Hoplocephala</i>] <i>haemo-rrhoidalis</i> (Fabricius, 1787)	NR		Pg	VAb					V	
39 <i>Platydemus violaceum</i> (Fabricius, 1790)	Hr ₂		Pg			V	EN		V	EN
<i>Diaperis boleti</i> (Linnaeus, 1756)	Hr ₂				□		V			
<i>Corticeus</i> [= <i>Hypophloeus</i>] <i>fasciatus</i> Fabricius, 1790	Hr ₂			G					V	
<i>Tenebrio obscurus</i> Fabricius, 1792	Sd								V	Ex
<i>Neatus picipes</i> (Herbst, 1797)	Hr ₂			Sg						
Cerambycidae										
40 <i>Rosalia alpina</i> (Linnaeus, 1758)	Hr ₁	V		Sg					Ex	
<i>Callimelum angulatum</i> (Schrank, 1789)	Hr ₁									
<i>Stenocorus meridianus</i> (Linnaeus, 1758)	Hr ₂	LR nt						V		D
<i>Rhagium sycophanta</i> (Schrank, 1781)	Hr ₂			G		V			V	
<i>Anoplodera</i> [= <i>Leptura</i>] <i>sexguttata</i> (Fabricius, 1775)	Hr ₂			Sg			R	V	V	V
<i>Stictoleptura</i> [= <i>Leptura</i>] <i>scutellata</i> (Fabricius, 1781)	Hr ₂			G			N			
41 <i>Leptura</i> [= <i>Strangalia</i>] <i>aurulenta</i> Fabricius, 1792	Hr ₂			Sg		EN	N	IK		
<i>Stenurella</i> [= <i>Strangalia</i>] <i>septem-punctata</i> (Fabricius, 1792)	Sd			VAb						
<i>Dorcadion fulvum</i> (Scopoli, 1763)	DV									
<i>D. pedestre</i> (Poda, 1761)	HV DV									
<i>Mesosa nebulosa</i> (Fabricius, 1781)	Sd						R	R	CD	
42 <i>Anaesthetis testacea</i> (Fabricius, 1781)	DV									
<i>Agapanthia violacea</i> (Fabricius, 1775)	DV Hr ₁									
43 <i>Calamobius filum</i> (Rossi, 1790)	DV			VAb						
Chrysomelidae										
44 <i>Antipus macropus</i> (Illiger, 1800)	HV	V								
<i>Pachybrachys fimbriolatus</i> Suffrian, 1848	HV			G						
45 <i>Cryptocephalus schaefferi</i> Schrank, 1789	DV			Sg						
<i>C. biguttatus</i> (Scopoli, 1763)	Hr ₁					V			V	
<i>C. coryli</i> (Linnaeus, 1758)	HV			G			EN			
46 <i>C. quatuordecimmaculatus</i> Schneider, 1792	HV DV									
<i>Chrysolina</i> [= <i>Chrysomela</i>] <i>fimbrialis</i> (Küster, 1845)	HV									
47 <i>Ch.</i> [= <i>Ch.</i>] <i>sanguinolenta</i> (Linnaeus, 1758)	HV DV						N		CD	
<i>Phyllobrotica adusta</i> (Creutzer, 1799)	HV									
<i>Hispa atra</i> Linnaeus, 1767	HV								R	
<i>Cassida azurea</i> Fabricius, 1801	Hr ₂		VAb	G						
<i>Hypocassida subferruginea</i> (Schrank, 1776)	DV						Ex			
48 <i>Pilemostoma fastuosa</i> (Schaller, 1783)	DV	LR nt	Sg				N		V	
Anthribidae										
<i>Enebreutes sepicola</i> (Fabricius, 1792)	Hr ₂					V	V			

Family/Species	Site	Ecosozological status									
		Sk	A	D	B	Dk	GB	N	Sw	F	
<i>Platyrhinus resinus</i> (Scopoli, 1763)	Hr ₂	LR nt				V	N			V	
49 <i>Dissoleucas niveirostris</i> (Fabricius, 1798)	NR					V	V				
● <i>Pseudochoragus piceus</i> (Schaum, 1845)	Hr ₁	VU		G							
Attelabidae											
<i>Attelabus nitens</i> (Scopoli, 1763)	DV Hr ₁				□						
<i>Apoderus coryli</i> (Linnaeus, 1758)	Hr ₂					X					
50 <i>Rhynchites aethiops</i> (Bach, 1854)	HV		Pg	G							
Scolytidae											
51 <i>Hylesinus oleiperda</i> (Fabricius, 1792)	HV					X					

Explanations:

Sites: Hr₁ – Hradištnica, steep xerothermic rocky grasslands and screes; Hr₂ – Hradištnica, oak-and-beech forests on less extreme slopes; Sd – ‘Stredná dolina’ valley; DV – Dolné Vestenice, HV – Horné Vestenice, NR – Nitrianske Rudno (villages); the abbreviations are used in the whole paper as well

Ecosozological status: Sk – Slovakia, A – Austria, D – Germany, B – Belgium (ESS in this historically the first Red Book of insects is not yet specified, these species – marked by “□” – are only listed in it), Dk – Denmark, GB – Great Britain, N – Norway, Sw – Sweden, F – Finland

Categories of ESS: CD – care demanding, D – decreasing, EN – endangered, Ex – extinct, Ex[♦] – the occurrence in Great Britain is documented only from pre-historic age (KIRBY & DRAKE 1993), G – ‘gefährdet’ (in Germanic-speaking countries, it corresponds ‘V’ according to IUCN criteria), IK – insufficiently known, LR lc – lower risk, least concern, LR nt – near threatened, N – notable, R – rare, Sg – ‘stark gefährdet’ (in Germanic-speaking countries, it corresponds ‘EN’ according to IUCN criteria), VAb – ‘Vom Aussterben bedroht’ (in Germanic-speaking countries, it corresponds ‘CR’ – critically endangered according to IUCN criteria), VU – vulnerable.

1. NR, under the stone in a xerothermic pasture 22nd April 1994. 2. DV, in the colony of *Lasius brunneus* under the bark of a solitary oak 18th May 2002. 3. DV, in a sheep dung in a xerothermic pasture 28th April 2002. A rare Mediterranean species. 4. DV, in the litter on a base of a solitary oak 20th April 2002. A rare species of older deciduous forests, it indicates well-preserved environments. 5. NR, in the colony of *Myrmica* sp. in a forest clearing 22nd April 1994. 6. Hr₂, in the root cavity of an old beech, occupied by the colony of *Lasius fuliginosus* 28th May 2002. 7. Hr₂, in the colony of *Lasius brunneus* under the bark of a beech 28th May 2002. 8. NR, in a colony of *Lasius brunneus* under the bark of an old oak 22nd April 1994. A little-known rare myrmecophilic species. 9. Sd, in a root cavity of an old oak 2nd July 2002. A rare species of warmer deciduous forests, it indicates well-preserved habitats. 10. Sd, in a flight in an open beech-and-oak forest 2nd July 2002. 11. DV, on a flower of the yarrow (*Achillea millefolium*) 13th June 2002. A rare thermophilic Mediterranean species. 12. HV, swept from the xerothermic vegetation 6th July 1993. A rare and little-known Mediterranean species. 13. Hr₂, under the bark of an oak stump 12th May 2002. 14. Hr₂, under the bark of a beech stump 28th May 2002. 15. NR, in a hollow oak 24th April 1993. A scattered and infrequent species of warmer deciduous forests. 16. Sd, knocked down from the dying branches of an oak 2nd July 2002. 17. Hr₂, swept from the vegetation in an ancient beech forest 19th June 2002. 18. Hr₂, the same circumstances 13th and 19th June 2002. The species of this genus (15. – 17.) rank among rare and threatened beetles throughout Europe, living in well-preserved habitats only. 19. Hr₂, swept from the forest vegetation 19th June 2002. 20. Sd, knocked down from the dying branches of a solitary oak 2nd July 2002. A rare species of open deciduous forests. 21. HV, on the dying branches of an oak 6th July 1993; Sd, the same circumstances 2nd July 2002. 22. NR, on a damaged solitary beech 22nd April

1994. 23. Hr₂, in the colony of *Lasius fuliginosus* in a hollow beech 28th May 2002. 24. Hr₂, under the bark of an old beech 28th May 2002. This species, protected in Europe, is locally frequent in older deciduous forests in Slovakia. 25. Hr₂, under the bark of an oak 19th June 2002. 26. Hr₂, on dying branches of a solitary beech 19th June 2002. 27. Hr₁, under the bark of a damaged solitary oak 19th June 2002. 28. Hr₂, in the star puff-ball fungi (*Geastrum sessile*) 2nd July 2002. 29. Hr₂, the same as in 25. 30. DV, under the bark of an oak stump 13th June 2002. A rare species of ancient deciduous forests. 31. HV, under the bark of a fungi-infected oak 28th April 2002; Sd, the same circumstances 1st May 2003. A rare species, highly threatened or even extinct in several European countries. 32. Hr₂, on an old beech stem with fungi (*Polyporus* sp.) 19th June 2002. 33. Hr₂, under the bark of a beech stem 19th June 2002. 34. DV, on a decaying oak branches with mycelium 20th April 2002. 35. Hr₂, on a damaged solitary beech 19th June 2002. 36. HV, on the vegetation of xerothermic grassland 28th April 2002. This formerly locally frequent species (BALTHASAR 1957), has become very rare during the last two decades. It is highly threatened in several European countries. 37. Sd, knocked down from the dying branches of a solitary oak 2nd July 2002. 38. NR, on an old fungi-infected beech stem 24th April 1993. 39. DV, under the bark of an oak infected by soft-fleshed fungi (*Auricularia mesenterica*) 28th April 2002. 40. Hr₁, on a damaged beech stem in a xerothermic slope 2nd July 2002. The occurrence of this protected, but (in Slovakia) locally frequent species in xerothermic habitat is very remarkable. 41. Hr₂, on a damaged oak stem 2nd July 2002. 42. DV, swept from the shrubby vegetation 18th May 2002. 43. DV, swept from xerothermic grassland (with *Stipa capillata*) 18th May 2002. This thermophilic species reaches the northern boundary of its range here. 44. HV, swept from the xerothermic vegetation (with *Dorycnium pentaphyllum*) 1st July 1995. This rare Mediterranean species occurs

only in the warmest habitats of Central Europe. **45.** DV, on a xerothermic vegetation 23rd April 1994. **46.** DV, on a xerothermic vegetation 18th May 2002. A Mediterranean species, that indicates the warmest habitats in Central Europe. **47.** and **48.** DV, on a xerothermic vegetation 18th May 2002. **49.** NR, on the fungi-infected branches of a beech 22nd April 1994. **50.** HV, on a xerothermic vegetation 28th April 2002. **51.** HV, swept from the vegetation in an open oak forest 23rd April 1994. The following very rare species (marked by “●” in the table 1) deserve special mention concerning their distribution and recent records in the territory of Slovakia.

Satrapes sartorii – HV, in the colony of *Tetramorium caespitum* in a xerothermic rocky slope 2nd May 1993; Sd, the same circumstances 20th April 2003. A very rare Ponto-Mediterranean species, known only from a few old pre-war records from Čachtice, Slovak Karst Reserve, and the surroundings of Banská Bystrica (lgt. J. Roubal, coll. Slov. nat. museum, Bratislava). Only the following further recent records are available: Belina (7785c), in the colony of *Tetramorium caespitum* in an eolian sandy grassland 10th April 1993, V. Franc lgt.; Malé Karpaty Mts. – Višňová (7173) 22nd May 1998, P. Bezděčka lgt. (HLAVÁČ & LACKNER 1998). It is also listed among endangered species in Hungary (VARGA, KASZAB & PAPP 1990).

Attaephilus arenarius – HV, in the colony of *Messor muticus* in a xerothermic rocky slope 28th April 2002. A very rare Ponto-Mediterranean species, known only from a few old records: Piešťany, Hronský Beňadik and Šášovské Podhradie (ROUBAL 1930). Only two further recent records are available: Medovarce (7779d), the same circumstances 28th April 1991, 3 ind. V. Franc lgt., 1 ind. coll. M. Dolanský; Tarbucka near Malý Kamenec (7696b) 8th April 1995 and 17th May 1995 (HLAVÁČ & LACKNER 1998).

Euconnus chrysocomus – DV, in the colony of *Tetramorium caespitum* 20th April 2002, 2 ind. A rare Ponto-Mediterranean species, formerly had been considered to be utmost rare. Known from old records from Čachtice, Slovak Karst Reserve, but from the surroundings of Banská Bystrica as well (ROUBAL 1937–1941). Recent records I have always documented in the colonies of *Tetramorium caespitum* in xerothermic habitats: Čabrad' (7780d) 8th April 1989; Detva – Rohy (7482c) 21st April 1996; Medovarce, 17th April 1993, 2 ind. and 25th April 1998, 1 ind.; Strážovské vrchy Mts. – Rohatín (6976c/7076a) 2nd May 2003, V. Franc lgt.; Tarbucka near Malý Kamenec (7696b) 24th March and 8th April 1995 (HLAVÁČ & LACKNER 1998).

Centrotoma lucifuga – NR, in the colony of *Tetramorium caespitum* 24th April 1993, ♂ + ♀. It occurs locally and very rarely in xerothermic habitats. Known from a few pre-war records (ROUBAL 1930). Recent records, always together with *Tetramorium caespitum*: Banská Bystrica – Sásovská dolina (7280b) 3rd and 5th May 1980, 2 ind., Franc & Kubinec lgt.; Gemerské Dechtáre (7786a) 2nd April 1999, V. Franc lgt.; and Malá Bara (7696) 1st April 1994, Lackner & Krátký lgt. (HLAVÁČ & LACKNER 1998). This notable species indicates the richest xerothermic habitats of Central Europe.

Dromaeolus barnabita – Hr₂, under the bark of an old beech 13th June 2002, 1 died, but non-damaged ind. in a web. A very rare species of warm deciduous forests. The further recent records: Petrovce (7299a), June and July 1992 (LOHAJ 1993); Nová Sedlica (6901a/c), knocked down from the branches of a willow! 15th June 1993 (JÁSZAY 2001); Tribeč Mts. – the valley of the Hunták brook (7674b), summer 1994 (CUNEV 1997); Krupinska planina Mts. – the ‘Čabradská dolina’ valley (7780d), 20th May 1992; Čebovce (7881a), 30th May 1993, V. Franc lgt.; Považský Inovec Mts.: Tematín – Lúka (7373a), Malaise trap, spring/summer 1999 (MAJZLAN 2002).

Benibotarus taygetanus – Hr₂, swept from the vegetation in an ancient beech forest 19th June 2002. It occurs scattered and very rarely in well-preserved, especially mixed forests. Only a few recent records are available: Poľana Mts. – Hrončok (7383a) 17th July 1986 and ‘Pri Bútl'avke’ (7382b) 17th July 1993; Veľká Fatra Mts. – Majerova skala (7180b) 1st July 2001, V. Franc lgt. The occurrence of this little-known mountain species in southern part of the Strážovské vrchy is very remarkable!

Allonyx quadrimaculatus – NR, knocked down from the branches of a solitary beech 22nd April 1994. This extremely rare species of warm deciduous forests is missing in the ‘Catalogue of Beetles’ (ROUBAL, 1936), and in the supplement (HAVELKA 1964) as well. Detailed findings are not even mentioned in the monograph of Clerid-beetles (ČERNÝ 1988); this may be intention to keep particular sites secret. Referred finding is the first seriously documented record for the territory of Slovakia! The second record: Čenkov (8277a), Malaise trap, spring/summer 1998 (MAJZLAN 2002).

Biphyllus lunatus – NR, under the bark of a solitary beech, damaged by fire 23rd April 1994. An utmost rare species of warm deciduous forests, known from very sporadic old records. The second recent finding: Štúrovo – Vřšok “Hegyfarok” (8177d) 30th April 1994, V. Kubinec lgt.

Pseudochoragus piceus – Hr₁, knocked down from dying branches of a solitary oak 13th June 2002. A sporadic and very rare species of warm deciduous forests, known only from historic record in the surroundings of Trenčín (Csiki & Petri lgt.; ROUBAL 1937–1941). The further recent records: Cerová vrchovina Mts. – Bagóova skala (7785d), 24th May 1996, 6 ind. V. Franc lgt.; Bystrická vrchovina Mts. – Stará kopa (7281c) 11th May 2002, V. Franc & V. Lingschová lgt.

CONCLUSION

Investigated territory ranks among little-known ones, out of the main roads and ‘Protected Landscape Area Strážovské vrchy’ as well. Nevertheless, it has been appeared as a highly valuable genofund area, requiring special territorial protection. During occasional excursions I have documented here a lot of rare and remarkable beetles, but also butterflies, spiders, etc. The rarest and most remarkable beetle species include *Satrapes sartorii*, *Attaephilus arenarius*, *Euconnus chrysocomus*, *Batrisodes buqueti*, *Centrotoma lucifuga*, *Anthaxia olympica*, *Agrilus croaticus*, *Microrhagus emyi*, *M. lepidus*, *M. pygmaeus*, *Dromaeolus barnabita*,

Benibotarus taygetanus, *Lichenophanes varius*, *Biphyllus lunatus*, *Mycetophagus fulvicollis*, *Pycnomerus terebrans*, *Meloe brevicollis*, *Calamobius filum*, *Antipus macropus*, *Cryptocephalus quatuordecimmaculatus* and *Pseudochoragus piceus*. *Allonyx quadrimaculatus* is the first seriously localised record for the Slovakian fauna.

This unsettled area of steep rocky slopes and screes is unsuitable for neither intensive agriculture nor commercial timber production. Forests of this region have mostly anti-erosional function. Therefore, establishment of the 'Hradištnica Nature Reserve' and/or enlargement of the 'Protected Landscape Area Strážovské vrchy' should not be greater problem. On the other hand, pastures and meadows in border zone are often in the stage of progressive succession, because grazing has been gradually reduced or even stopped here. Extensive grazing is the most suitable (and the single?) way of exploitation of these unfertile semi-anthropogenic habitats. Central – steep and wild part of this territory covered by forest ought to be kept out of the human activity.

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Prišlo 8.1.2003, akceptované 17.12.2004