

Beetles (Coleoptera) of the Strážovské vrchy Mts with special reference to bioindicatively significant species

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Abstract: This paper deals with distribution, vulnerability and bioindicative value of the scarcer beetles (Coleoptera) of the Strážovské vrchy Mts. The ‘Protected Landscape Area (PLA) Strážovské vrchy’ has been established in 1989, but the area of PLA does not refer to the majority of this orographic unit, because southern part of the Strážovské vrchy Mts (approximately 45 %) is out of the territorial protection. The whole orographic unit is extraordinarily valuable from entomological, arachnological and botanical points of view. This area is prevalingly covered by moderate beech forests, open oak forests and xerothermic rocky grasslands. The rarest and most remarkable beetle species include *Carabus montivagus blandus*, *Satrapes sartorii*, *Attaephilus arenarius*, *Euconnus chrysocomus*, *Centrotoma lucifuga*, *Anthaxia olympica*, *Agrilus croaticus*, *Stenagostus rhombeus*, *Microrhagus emyi*, *M. lepidus*, *M. pygmaeus*, *Hylis cariniceps*, *Dromaeolus barnabita*, *Benibotarus taygetanus*, *Allonyx quadrimaculatus*, *Lichenophanes varius*, *Biphyllus lunatus*, *Mycetophagus fulvicollis*, *Melandrya dubia*, *Meloe brevicollis*, *Calamobius filum*, *Antipus macropus*, *Cryptocephalus quatuordecimmaculatus* and *Pseudochoragus piceus*. There were documented a lot species belonging to phylogenetically ‘archaic’ families Eucnemidae and Melandryidae here, that are considered to be significant indicators of well-preserved habitats. The necessity of the PLA Strážovské vrchy widening is also discussed in this paper.

Key words: beetles (Coleoptera), Slovakia, Strážovské vrchy Mts

Introduction

Conspicuous massif of the Strážovské vrchy Mts with complicated geological and orographic structure is prevalingly covered by open deciduous, locally ancient forests. The Protected Landscape Area (PLA) Strážovské vrchy has been established in both northern and central part of this orographic unit, while southern part is out of the territorial protection. It is obvious according to a map, that approximately 45 % of this orographic unit 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) are practically missing in accessible papers.

I have occasionally dealt with research of beetles (and later spiders as well) of Strážovské vrchy Mts 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

The research of beetles was carried out in the following eight sites – brief characteristic is available in the table 1 (abbreviations are also used in the table 2 and later). The beetles were obtained by current methods of collecting, especially sweeping the vegetation, sifting the detritus and individual collecting under the bark and in hollows of old trees. The material was determined according to the keys by Freude, Harde & Lohse (1964 – 1983) and the further accessible publications (Balthasar 1957, Kult 1947); the nomenclature is based on the Check-list edited by Jelínek (1993).

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 (Gønget 1998), Great Britain (Hyman & Parsons 1992, 1994), Norway (Hanssen, Ødegaard & Kvamme 1999), Sweden [Gärdenfors (ed.) 2000] and Finland [Rassi, Alanen, Kanerva & Mannerkoksi (eds.) 2001]. Their ecosozological status (ESS) in separate countries is also discussed in the table 2.

Table 1: Survey of the sites

	The main habitat group	Site	Abbr.	Code of DFS	Brief characteristic of the habitats
»southern sector«	± xerothermic series	Horné Vestenice	HV	7276d*	xerothermic grasslands, extensive pastures, meadows, shrubby slopes, ecotones, abandoned orchards
		Dolné Vestenice	DV	7276c	
		Nitrianske Rudno	NR	7176d/7276b	
	forests with xerothermic enclaves and clearings	Hradištnica	Hr	7276c	open, prevailing oak forests, screes, xerothermic rocky grasslands
		Stredná dolina	Sd	7276c	
Protected Landscape Area (PLA)	forests with xerothermic enclaves and clearings	NR Vápeč	V	7075d/7076c	prevailing beech forests (+ maple, lime and ash trees), secondary pine forest, screes, xerothermic rocky slopes
		NR Rohatín	R	6976c/7076a	
	forest series	NR Strážov	S	7076b/d	old beech forest (+ sycamore), screes

* 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)

Systematic review of beetles is available in the table 2. This review mostly includes infrequent or rare species, interesting from zoogeographical and/or ecological point of view. The species distinguished by ‘◀’ and the number deserve special mention concerning ecological circumstances and the date of collecting.

1 R, remains of imago (elytrae) under the stone 9th June 2003. A very rare Ponto-Mediterranean species, occurring sporadically in the warmest habitats. Known from a few recent records: Plášťovce (7879b) 6th Apr. 1986, J. Kišš lgt. et coll.; Čabrad' (7780d) 8th Apr. 1989 and Jablonov nad Turňou (7390c) 5th May 1991, both V. Franc lgt. et coll.; Plešivská planina (7588b) dateless – the beginning of 80s (Vondřejc & Vondřejcová 1988). **2 NR**, under the stone in a xerothermic pasture 22nd April 1994; **V**, the same circumstances 2nd May 2003. A rare, recently decreasing species. **3 S**, accidentally (?) under the bark of a beech 26th June 2003. The abundance of this formerly rare species of warmer both wet and dry habitats is recently increasing; nevertheless its occurrence in continuous ancient forest of Strážov is remarkable. **4 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. et coll.; 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). **5 NR**, in the colony of *Formica fusca* 22nd Apr. 1994, 6 ind.; **HV**, *F. fusca* 28th Apr. 2002, 2 ind.; **Sd**, in the colony of *Tetramorium caespitum* 20th Apr. 2003. **6 DV**, in the colony of *Lasius brunneus* under the bark of a solitary oak 18th May 2002. A rare little-known species of old deciduous forests, probably a synoecious myrmecophile. **7 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 record 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). **8 DV**, in the colony of *Tetramorium caespitum* in a xerothermic rocky slope 20th April 2002, 2 ind.; **R**, the same circumstances 2nd May 2003. 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., V. Franc lgt. et coll.; Tarbucka near Malý Kamenec (7696b) 24th March and 8th April 1995 (Hlaváč & Lackner 1998). **9 R**, remains of imago (elytrae and pronotum) under the stone 26th May 2003. A rare and conspicuous species, occurring sporadically in warm habitats. **10 V**, under the stone at a forest edge 27th May 2003. A rare species of well-preserved

Tab. 2: Scarcer beetles of the Strážovské vrchy Mts

Family/Species	Sites →	PLA			»Southern sector«					Ecosozological status								
		V	R	S	DV	HV	Hr	Sd	NR	Sk	A*	D*	B	Dk	GB	N	Sw	F
Carabidae																		
<i>Carabus convexus</i> F. 1775	◆						◆									Ex ²	VU	VU
<i>C. intricatus</i> L. 1761	◆	◆					◆										VU	VU
<i>C. montivagus blandus</i> Friv. 1865 § ◀1		◆								VU								
<i>Cychrus attenuatus</i> (F. 1792)		◆																
<i>Aptinus bombardia</i> (Ill. 1800)	◆						◆					VAb						
<i>Olisthopus sturmi</i> (Duft. 1812)							◆					G						
<i>Callistus lunatus</i> (F. 1775) ◀2	◆								◆		Pg	G	□		EN			
<i>Panagaeus bipustulatus</i> (F. 1775)						◆							□		N	VU		
<i>Lebia crux-minor</i> (L. 1758)	◆							◆						VU	EN	Ex		
<i>L. cyanocephala</i> (L. 1758)						◆								Ex	EN	Ex ²	EN	Ex ^r
<i>Cymindis axillaris</i> (F. 1794)						◆					Pg	Sg			N			
<i>Drypta dentata</i> (Rossi 1790) ◀3	◆		◆		◆	◆					Sg	G			EN			
Histeridae																		
<i>Satrapes sartorii</i> (Rdtb. 1858) ◀4						◆		◆		VU	VAb							
<i>Hetaerius ferrugineus</i> (Oliv. 1789) ◀5		◆			◆				◆	LR nt					I		VU	
Silphidae																		
<i>Ablattaria laevigata</i> (F. 1775)	◆											G						
Leiodidae																		
<i>Nemadus colonoides</i> (Kr. 1851) ◀6					◆					LR nt						VU	NT	
<i>Attaephilus arenarius</i> (Hampe 1852) ◀7					◆					VU	VAb							
Scydmaenidae																		
<i>Stenichnus godarti</i> (Latr. 1806)		◆													R			
<i>S. scutellaris</i> (Müll. & Kunze 1822)	◆																	
<i>Euconnus chrysocomus</i> (Saulcy 1864) ◀8		◆			◆					VU								
<i>Scydmaenus hellwigi</i> (Hbst. 1792)		◆														D		
Dasycteridae																		
<i>Dasycerus sulcatus</i> Brong. 1800							◆											
Staphylinidae s. str.																		
<i>Siagonium quadricorne</i> Kirby & Spence 1815		◆																
<i>Ontholestes haroldi</i> Epp. 1884					◆													
<i>Ocyopus fulvipennis</i> (Er. 1840)	◆																Ex ^r	
<i>O. fuscatus</i> (Grav. 1802)		◆																
<i>O. macrocephalus</i> (Grav. 1802)			◆		◆													
<i>O. ophthalmicus</i> (Scop. 1763) ◀9		◆													N			
<i>O. tenebricosus</i> (Grav. 1846)		◆																
<i>Platydracus fulvipes</i> (Scop. 1763) ◀10	◆									LR nt					N			
<i>P. stercorarius</i> (Oliv. 1795)		◆																
<i>Staphylinus chloropterus</i> Panz. 1796 ◀11					◆					LR nt								
<i>S. fossor</i> Scop. 1772		◆														D		
<i>Philonthus lepidus</i> (Grav. 1802)	◆																	
<i>Quedius lateralis</i> (Grav. 1802)																		
<i>Euryusa sinuata</i> Er. 1837							◆							VU	I		VU	
<i>Lomechusa emarginata</i> (Payk. 1789) ◀12									◆						N			
<i>Oxypoda vittata</i> Märk. 1842																		
Pselaphidae																		
<i>Batrisus formicarius</i> Ab. 1833							◆									Ex [◆]		
<i>Batrisodes buqueti</i> (Ab. 1833) ◀13									◆	VU	VAb	Sg						
<i>Psalaphus heisei</i> Hbst. 1792	◆												□					
<i>Centrotoma lucifuga</i> Hd. 1849 ◀14									◆	VU	VAb	Sg						

Tab. 2 (continued)

Family/Species	Sites →	PLA			»Southern sector«					Ecosozological status								
		V	R	S	DV	HV	Hr	Sd	NR	Sk	A*	D*	B	Dk	GB	N	Sw	F
<i>Tyrus mucronatus</i> (Panz. 1805)		♦					♦							EN	EN			
Clavigeridae																		
<i>Claviger testaceus</i> Pr. 1790 ◀15		♦							♦	LR nt		G			N			VU
Lucanidae																		
<i>Lucanus cervus</i> L. 1758 §							♦	♦		LR lc	G	Sg		Ex	N	D	VU	NT
<i>Platycerus caprea</i> (De Geer 1774)		♦																
<i>Sinodendron cylindricum</i> (L. 1758)		♦	♦				♦			LR nt?								
Trogidae																		
<i>Trox hispidus</i> (Pontopp. 1763)					♦									VU				
Scarabaeidae																		
<i>Sisyphus schaefferi</i> (L. 1758) § ◀16					♦	♦				LR nt	Sg	Sg	□					
<i>Copris lunaris</i> (L. 1758) ◀17						♦				LR nt	Sg	VAb	□	EN	EN	Ex?		VU
<i>Euoniticellus fulvus</i> (Goeze 1777)						♦												
<i>Aphodius brevis</i> Er. 1848									♦			VAb		EN	EN	D		
<i>A. rufus</i> (Moll. 1782)						♦												
<i>Valgus hemipterus</i> (L. 1758)					♦			♦				Sg		Ex				
<i>Gnorimus variabilis</i> (L. 1758) ◀18								♦		VU				EN	EN		EN	EN
<i>Liocola lugubris</i> (Hbst. 1876)			♦					♦		VU		Sg		Ex		VU	VU	VU
<i>Potosia affinis</i> (And. 1797)		♦								VU	Sg							
Byrrhidae																		
<i>Byrrhus glabratus</i> Heer 1841				♦														
<i>Pedilophorus auratus</i> (Duft. 1825)			♦															
Buprestidae																		
<i>Acmaeoderella flavofasciata</i> (Pill. & Mitterp. 1783) ◀19								♦				VAb						
<i>Dicerca berolinensis</i> (Hbst. 1797)			♦									Sg						
<i>Anthaxia fulgurans</i> (Schr. 1787)		♦										VAb						
<i>A. salicis</i> (F. 1777)			♦									G						
<i>A. olympica</i> Kiesw. 1857 ◀20					♦						Sg							
<i>Chrysobothris affinis</i> (F. 1794)			♦					♦						VU				
<i>Coraebus elatus</i> (F. 1787)					♦							VAb						
<i>Agrilus croaticus</i> Abeil. de Perr. 1897 ◀21								♦		EN	Sg							
Elateridae																		
<i>Stenagostus rhombeus</i> (Ol. 1790) ◀22				♦							Pg	G						VU
<i>Calambus bipustulatus</i> (L. 1767)								♦				G			N	VU	VU	
<i>Hypoganus inunctus</i> (Panz. 1795)			♦					♦				G				VU	NT	
<i>Ampedus elongatulus</i> (F. 1787)										LR nt		G			N			
<i>A. nigerrimus</i> (Lac. 1835) ◀23		♦								VU		G		EN	EN		CR	
<i>A. rufipennis</i> (Steph. 1830)												Sg		VU	VU	VU	VU	
<i>A. sinuatus</i> Germ. 1844					♦							VAb						
<i>Quasimus minutissimus</i> (Germ. 1817)			♦															
<i>Cardiophorus vestigialis</i> Er. 1840								♦	♦						VU			
<i>Porthmidius austriacus</i> (Schr. 1781)			♦					♦				VAb			Ex♦			
Eucnemidae																		
<i>Isorhipis melasoides</i> (Lap. de Cast. 1835) ◀24			♦							VU	Sg	Sg			Ex♦			
<i>Melasis buprestoides</i> (L. 1761)		♦									G	G		EN	N	D	NT	EN
<i>Hylis cariniceps</i> (Reitt. 1902) ◀25		♦								VU	VAb	Sg			EN	D	NT	VU
<i>H. foveicollis</i> (Thoms. 1874)		♦								VU	Sg	Sg					NT	
<i>Xylophilus corticalis</i> (Payk. 1800) ◀26			♦							VU	Sg	VAb /G		EN		D	NT	CR
<i>Dromaeolus barnabita</i> (A. & G. B. Villa 1838) ◀27			♦					♦		VU		VAb			Ex♦		CR	
<i>Microrhagus emyi</i> (Rg. 1855) ◀28									♦	VU		VAb					CR	
<i>M. lepidus</i> Rosenh. 1847 ◀29								♦		VU		VAb			R	D	NT	NT

Tab. 2 (continued)

Family/Species	Sites →	PLA			»Southern sector«					Ecosozological status								
		V	R	S	DV	HV	Hr	Sd	NR	Sk	A*	D*	B	Dk	GB	N	Sw	F
<i>Microrhagus pygmaeus</i> (F. 1792)	◆	◆					◆			VU		Sg						
Homalidae																		
<i>Omalysus fontisbellauei</i> (Geoffr. 1762)																		
Lycidae																		
<i>Benibotarus taygetanus</i> (Pic 1905) ◀30							◆			VU		VAb						
<i>Pyropterus nigroruber</i> (De Geer 1774)				◆											N			
<i>Platycis cosnardi</i> (Chev. 1838) ◀31		◆										Sg			I		VU	
Lampyridae																		
<i>Phosphaenus hemipterus</i> (Geoffr. 1762)			◆	◆			◆					G			EN			
Drilidae																		
<i>Drilus concolor</i> (Ahr. 1812)							◆											EN
Dermestidae																		
<i>Dermestes frischi</i> Kug. 1792	◆													R				
<i>Attagenus punctatus</i> (Scop. 1772)		◆				◆						Sg					EN	
<i>Megatoma undata</i> (L. 1758)		◆										G			N			
<i>Trinodes hirtus</i> (F. 1781) ◀32		◆					◆					G			R		VU	
Bostrichidae																		
<i>Lichenophanes varius</i> (Ill. 1801) ◀33								◆		VU		VAb						
Anobiidae																		
<i>Ptinomorphus imperialis</i> (L. 1767)	◆	◆					◆								N			EN
<i>Xestobium plumbeum</i> (Illig. 1801)	◆																	
<i>Oligomerus brunneus</i> (Ol. 1790)							◆					Sg					VU	
<i>Gastrallus laevigatus</i> (Ol. 1790)						◆						Sg						
<i>Xyletinus ater</i> (Creutz. 1796)	◆	◆					◆							Ex				NT
<i>Stagetus pilula</i> (Aubé 1861) ◀34		◆								VU		Aov						
<i>Dorcatoma chrysomelina</i> Sturm 1837							◆				Sg	Sg						
Trogositidae																		
<i>Peltis grossa</i> (L. 1758) ◀35				◆						LR nt	Sg	VAb			Ex	◆	EN	VU
<i>Thymalus limbatus</i> (F. 1787)		◆					◆					G		VU	N			EN
<i>Grynocharis oblonga</i> (L. 1758) ◀36									◆			VAb					VU	VU
Cleridae																		
<i>Tillus elongatus</i> (L. 1758)		◆					◆				Pg	G	□		N			
<i>Trichodes apiarius</i> (L. 1758)		◆					◆					G	□		Ex			
<i>Trichodes favarius</i> (Illig. 1802)					◆		◆											
<i>Clerus mutillarius</i> F. 1775								◆			Pg	VAb						
<i>Opilo mollis</i> (L. 1758)		◆					◆	◆							N	D	VU	
<i>Allonyx quadrimaculatus</i> (Schall. 1783) ◀37									◆	VU		VAb	□					
Malachiidae																		
<i>Celidus equestris</i> (F. 1781) [= <i>Anthocomus bipunctatus</i> (Harr. 1784)]	◆																	
<i>Ebaeus flavicornis</i> Er. 1840	◆																	
Dasytidae																		
<i>Dolichosoma lineare</i> (Rossi 1792)					◆													
Nitidulidae																		
<i>Omosita depressa</i> (L. 1758)								◆										
<i>Soronia grisea</i> (L. 1758)							◆											
<i>Amphotis marginata</i> (F. 1781)		◆					◆								IK			NT
<i>Cychramus variegatus</i> (Hbst. 1792) [= <i>quadripunctatus</i> (Hbst. 1792)]			◆	◆														
<i>Cyllodes ater</i> (Hbst. 1792)		◆	◆				◆							Ex				VU
<i>Thalycra fervida</i> (Oliv. 1790)	◆							◆							N			VU

Tab. 2 (continued)

Family/Species	Sites →	PLA			»Southern sector«					Ecosozological status								
		V	R	S	DV	HV	Hr	Sd	NR	Sk	A*	D*	B	Dk	GB	N	Sw	F
<i>Glischrochilus</i> (= <i>Librodor</i>) <i>quadriguttatus</i> (F. 1776)		◆														D	NT	
Cucujidae s. lat.																		
<i>Cucujus cinnaberinus</i> (Scop. 1763) § ◀38		◆					◆			LR nt	Sg	VAb				EN	EN	CR
<i>Pediacus dermestoides</i> (F. 1792)				◆			◆			LR nt	VAb	VAb		EN				
<i>Laemphloeus monilis</i> (F. 1787)		◆					◆			VU	Sg	G		EN	VU	VU		
<i>Silvanus unidentatus</i> (F. 1792)		◆									G			EN	VU	VU	EN	
<i>Uleiota planata</i> (L. 1761)		◆	◆				◆							VU	N	DD	CR	
<i>Dendrophagus crenatus</i> (Payk. 1799) ◀39				◆						VU	Sg	Sg		N		NT		
<i>Phloeostichus denticollis</i> Redtb. 1842 ◀40				◆						VU	Sg	Sg		EN				
Biphyllidae																		
<i>Biphyllus lunatus</i> (F. 1792) ◀41								◆		EN		VAb			Ex [?]	EN	Ex ^r	
<i>Diplocoelus fagi</i> Guér.-Ménv. 1844							◆					G		VU	N	NT		
Erotylidae																		
<i>Tritoma bipustulata</i> F. 1775	◆						◆								N			
<i>Triplax russica</i> (L. 1758)		◆					◆				Pg							
<i>T. rufipes</i> (F. 1775)		◆					◆	◆			Pg	VAb		Ex		NT	LC	
<i>T. scutellaris</i> Charp. 1825		◆	◆				◆				G	VAb		Ex	R			
<i>Dacne rufifrons</i> (F. 1775)		◆									G	Sg				Ex ^r		
Endomychidae																		
<i>Symbiotes gibberosus</i> (Luc. 1849)							◆				Pg	VAb		Ex				
<i>Mycetina cruciata</i> (Sch. 1783)				◆								G		Ex	Ex [◆]	NT		
<i>Lycoperdina bovistae</i> (F. 1792) ◀42				◆			◆				Sg	G			R	NT		
<i>Endomychus coccineus</i> (L. 1758)				◆			◆											
Coccinellidae																		
<i>Anatis ocellata</i> (L. 1758)		◆																
<i>Calvia decemguttata</i> (L. 1767)		◆																
<i>Myzia oblongoguttata</i> (L. 1758)	◆																	
Colydiidae																		
<i>Synchita humeralis</i> (F. 1792)	◆	◆					◆				G				N			
<i>Cicones variegatus</i> (Hellw. 1792) ◀43		◆								VU	G	G			N	NT		
<i>Coxelus pictus</i> (Sturm 1807)		◆					◆					VAb						
<i>Pycnomerus terebrans</i> (Oliv. 1790) ◀44								◆		VU	Sg	Sg		Ex [◆]				
Mycetophagidae																		
<i>Triphyllus bicolor</i> (F. 1792)							◆					G						
<i>Mycetophagus quadripustulatus</i> (L. 1767)		◆	◆				◆									VU	NT	LC
<i>M. quadriguttatus</i> Müll. 1821					◆							G			N	EN	Ex ^r	
<i>M. multipunctatus</i> F. 1792				◆								Sg						
<i>M. fulvicollis</i> F. 1792 ◀45	◆							◆		LR nt	Sg	VAb		Ex	Ex	D	VU	
Tetratomidae																		
<i>Tetratoma ancora</i> F. 1790	◆						◆				G	Sg			N			
<i>T. fungorum</i> F. 1790				◆							G	G				NT	VU	
Melandryidae																		
<i>Hallomenus binotatus</i> (Quens. 1790)							◆				G				N			
<i>Orchesia micans</i> (Panz. 1795)							◆								N			
<i>O. fasciata</i> (Ill. 1798)	◆					◆	◆				G	Sg		EN		D	VU	
<i>O. minor</i> Walk. 1837	◆	◆				◆	◆								N		NT	
<i>O. undulata</i> Kr. 1853	◆					◆	◆					G					EN	
<i>Phlototrya rufipes</i> (Gyll. 1810)	◆					◆	◆					Sg				D	NT	NT
<i>Hypulus bifasciatus</i> (F. 1792) ◀46	◆		◆		◆					LR nt	Sg	VAb					NT	NT

Tab. 2 (continued)

Family/Species	Sites →	PLA			»Southern sector«					Ecosozological status									
		V	R	S	DV	HV	Hr	Sd	NR	Sk	A*	D*	B	Dk	GB	N	Sw	F	
<i>Melandrya caraboides</i> (L. 1761) ◀47					♦					LR nt	Pg	G			N	D	EN		
<i>M. dubia</i> (Schall. 1783) ◀48				♦						VU	Sg	Sg		VU		Ex ²	VU	NT	
<i>Osphya bipunctata</i> (F. 1775)												Sg		R	R	EN	VU		
Pyrochroidae																			
<i>Pyrochroa coccinea</i> (L. 1761)			♦	♦											N				
<i>Schizotus pectinicornis</i> (L. 1758)			♦												N				
Aderidae																			
<i>Aderus populneus</i> (Creutz. 1796)												Sg				D	NT		
<i>Anidorus</i> (= <i>Aderus</i>) <i>nigrinus</i> (Germ. 1831)																			
Meloidae																			
<i>Meloe brevicollis</i> Panz. 1793 ◀49								♦		VU		Sg		VU	EN	Ex ²	CR	Ex ^r	
<i>M. rugosus</i> Marsh. 1802 ◀50								♦		VU		VAb			R				
Scraptiidae																			
<i>Cyrtanaspis phalerata</i> (Germ. 1831)																		CR	CR
Salpingidae																			
<i>Lissodema denticolle</i> (Gyll. 1813)		♦													N			NT	
<i>Rabocerus foveolatus</i> (Ljungh 1823)												G			N				
<i>Vincenzellus ruficollis</i> (Panz. 1794) [= <i>viridipennis</i> (Latr. 1804)]												G		R				EN	
<i>Salpingus</i> (= <i>Rhinosimus</i>) <i>planirostris</i> (F. 1787)																			
<i>S.</i> (= <i>Rh.</i>) <i>ruficollis</i> (L. 1761)										VU ²									
Alleculidae																			
<i>Allecula morio</i> (F. 1787)			♦									G		VU				VU	Ex ^r
<i>Gonodera luperus</i> (Hbst. 1783)		♦	♦																
<i>Prionychus melanarius</i> (Germ. 1813) ◀51												VAb			VU	EN	EN	EN	
<i>Hymenalia rufipes</i> (F. 1792)			♦									VAb		R		D			
<i>Isomira murina</i> (L. 1758)		♦																	
<i>Mycetochara axillaris</i> (Payk. 1799)		♦										Sg				D	NT		
<i>M. humeralis</i> (F. 1787) ◀52		♦										Pg	VAb	Ex	N	D	NT	VU	
Tenebrionidae																			
<i>Oodescelis polita</i> (Sturm 1807)			♦									Sg							
<i>Pedinus femoralis</i> (L. 1767)					♦							Pg	VAb						
<i>Crypticus quisquilius</i> (L. 1761)						♦									N			EN	
<i>Bolitophagus reticulatus</i> (L. 1767)			♦	♦								G			N				
<i>Eledona agaricola</i> (Hbst. 1783)					♦									VU	N				
<i>Diaperis boleti</i> (L. 1756)			♦	♦										□	VU	D		NT	
<i>Neomida haemorrhoidalis</i> (F. 1787) ◀53												Pg	VAb	EN		VU	NT	EN	
<i>Scaphidema metallicum</i> (F. 1792)			♦												N			NT	
<i>Platydemus violaceum</i> (F. 1790) ◀54												Pg		VU	EN			EN	CR
<i>Alphitophagus bifasciatus</i> (Say 1823)				♦															
<i>Palorus depressus</i> (F. 1790)			♦									G							
<i>Corticeus fasciatus</i> F. 1790			♦									G		VU					
<i>C. unicolor</i> Pill. & Mitt. 1783			♦	♦											R	D	EN		
<i>Tenebrio obscurus</i> F. 1792																	DD	NE	
<i>Neatus picipes</i> (Hbst. 1797)												Sg							
<i>Cylindronotus aeneus</i> (Scop. 1863)			♦																
<i>C. dermestoides</i> (Illig. 1798)		♦			♦							G						DD	
Cerambycidae																			
<i>Cerambyx scopolii</i> Fues. 1775			♦											□	VU				
<i>Rosalia alpina</i> (L. 1758) § ◀55			♦							VU		Sg				D		VU	Ex ^r
<i>Stenopterus rufus</i> (L. 1767)			♦																

Tab. 2 (continued)

Family/Species	Sites →	PLA			»Southern sector«					Ecosozological status								
		V	R	S	DV	HV	Hr	Sd	NR	Sk	A*	D*	B	Dk	GB	N	Sw	F
<i>Callimelum angulatum</i> (Schr. 1789) ◀56							♦					Sg						
<i>Molorchus umbellatarum</i> (Schreb. 1759)	♦												□		N	D		
<i>Hylotrupes bajulus</i> (L. 1758)		♦												VU				
<i>Pyrrhidium sanguineum</i> (L. 1758)														EN	VU	VU	NT	
<i>Phymatodes alni</i> (L. 1767)														R	N	NT	EN	
<i>Anaglyptus mysticus</i> (L. 1758)		♦													N	Ex ²	NT	
<i>Plagionotus arcuatus</i> (L. 1758)															Ex			CR
<i>Stenocorus meridianus</i> (L. 1758)									LR nt							D		CR
<i>Rhagium sycophanta</i> (Schr. 1781)											G	G		VU			VU	
<i>Dinoptera</i> (= <i>Acmaeops</i>) <i>collaris</i> (L. 1758)				♦										EN				
<i>Anoplodera</i> (= <i>Leptura</i>) <i>sexguttata</i> (F. 1775)		♦										Sg		VU	R	D	VU	EN
<i>Leptura</i> (= <i>Strangalia</i>) <i>aurulenta</i> F. 1792 ◀57											Pg	Sg			N			
<i>Stictoleptura</i> (= <i>Leptura</i>) <i>scutellata</i> (F. 1781)				♦								G		VU	N		EN	
<i>Stenurella</i> (= <i>Strangalia</i>) <i>septempunctata</i> (F. 1792)												VAb						
<i>Dorcadion fulvum</i> (Scop. 1763)					♦						Sg							
<i>D. pedestre</i> (Poda 1761)					♦	♦					Sg							
<i>Mesosa nebulosa</i> (F. 1781)															R	D	NT	
<i>Anaesthetis testacea</i> (F. 1781)					♦							G					VU	
<i>Oplosia fennica</i> (Payk. 1880) ◀58		♦										Sg		EN		D	NT	VU
<i>Agapanthia violacea</i> (F. 1775)					♦						Pg							
<i>A. intermedia</i> Ganglb. 1884 [=? <i>cardui</i> (L. 1758)]					♦						Pg	G						
<i>Calamobius filum</i> (Rossi 1790) ◀59		♦			♦						Pg	VAb						
<i>Pogonocherus hispidulus</i> (Pill. & Mitterp. 1783)		♦																NT
<i>Acanthoderes clavipes</i> (Schr. 1781)		♦												Ex				NT
<i>Leiopus nebulosus</i> (L. 1758)	♦	♦																NT
<i>Stenostola dubia</i> (Laich. 1784)		♦													N			NT
<i>Oberea erythrocephala</i> (Schr. 1776) ◀60				♦								Sg						
<i>Phytoecia cylindrica</i> (L. 1758)		♦													N			VU
<i>Ph. nigripes</i> (Voët 1778)					♦							VAb						
Chrysomelidae s. lat.																		
<i>Lilioceris lili</i> (Scop. 1763)	♦																	
<i>L. merdigera</i> (L. 1758)		♦																
<i>Antipus macropus</i> (Ill. 1800) ◀61										VU	VAb							
<i>Pachybrachys fimbriolatus</i> Suffr. 1848												G						
<i>Cryptocephalus schaefferi</i> Schr. 1789					♦						Pg	Sg						
<i>C. biguttatus</i> (Scop. 1763)														VU	VU		EN	Ex ^f
<i>C. coryli</i> (L. 1758)												G		VU	EN	VU	NT	NT
<i>C. nitidulus</i> (F. 1787)												G		EN	EN			VU
<i>C. quatuordecimmaculatus</i> Schn. 1792					♦						Sg							
<i>Eumolpus</i> (= <i>Chrysochus</i>) <i>asclepiadeus</i> (Pall. 1776)		♦									Pg	Sg						
<i>Chrysolina sanguinolenta</i> (L. 1758)					♦										N		VU	
<i>Phyllobrotica adusta</i> (Cr. 1799)											Sg							
<i>Hispa atra</i> L. 1767																		
<i>Cassida azurea</i> F. 1801											VAb	G						
<i>C. canaliculata</i> Laich. 1781											Pg	G						

Tab. 2 (continued)

Family/Species	Sites →	PLA			»Southern sector«					Ecosozological status									
		V	R	S	DV	HV	Hr	Sd	NR	Sk	A*	D*	B	Dk	GB	N	Sw	F	
<i>Hypocassida subferruginea</i> (Schr. 1776)					♦										EN	Ex			
<i>Pilemostoma fastuosa</i> (Schall. 1783) ◀62					♦					LR nt	VAb	Sg		Ex	N			EN	
Anthribidae																			
<i>Enedreutes sepicola</i> (F. 1792)	♦															VU	D	NT	
<i>Platyrhinus resinosus</i> (Scop. 1763)		♦								LR nt				VU	N		VU	NT	VU
<i>Rhaphitropis marchicus</i> (Hbst. 1797)	♦					♦													
<i>Dissoleucas niveirostris</i> (F. 1798)			♦						♦							VU		NT	
<i>Anthribus albinus</i> (L. 1758)	♦															N			
<i>Brachytarsus nebulosus</i> (Forst. 1771)	♦	♦														N			
<i>Choragus sheppardi</i> Kirby 1818) ◀63	♦									VU	VAb	G		VU	N			NT	EN
<i>Pseudochoragus piceus</i> (Schaum 1845) ◀64										VU		G							
Attelabidae																			
<i>Attelabus nitens</i> (Scop. 1763)					♦														
<i>Apoderus coryli</i> (L. 1758)																			
<i>Rhynchites aethiops</i> (Bach 1854)						♦						Pg	G						
Scolytidae																			
<i>Hylesinus oleiperda</i> (F. 1792)						♦								VU				D	
+ ORTHOPTERA: Myrmecophilidae																			
<i>Myrmecophila acervorum</i> (Panz. 1820)	♦				♦							Sg	Sg						

Ecosozological status (countries): **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: **Ex** – extinct, **Ex**♦ – the occurrence in Great Britain is documented only from pre-historic age (Kirby & Drake 1993), **Ex**^r – regionally extinct, **CR** – critically endangered, **EN** – endangered, **VU** – vulnerable, **R** – rare, **N** – notable, **NE** – not evaluated, **D** – decreasing, **DD** – data deficient, **IK** – insufficiently known, **I** – indeterminate, **LR nt** (**NT**) – near threatened, **LC** – least concern; **§** – protected species in the territory of Slovakia

* although different ecosozological categories are used in Germanic-speaking countries, they are convertible to IUCN ones: **VAb** – ‘Vom Aussterben bedroht’ (it corresponds ‘CR’ – critically endangered according to IUCN criteria), **Sg** – ‘stark gefährdet’ (≈ EN according to IUCN criteria), **G** – ‘gefährdet’ (≈ VU according to IUCN criteria), **Pg** – ‘potentiell gefährdet’ (≈ LR nt according to IUCN criteria)

(sub)mountain habitats.

11 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. **12 NR**, in the colony of *Myrmica* sp. in a forest clearing 22nd April 1994, 2 ind. **13 NR**, in a colony of *Lasius brunneus* under the bark of an old oak 22nd April 1994. A little-known rare myrmecophilic species. **14 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., V. Franc & V. Kubinec lgt.; Gemerské Dechtáre (7786a) 2nd April 1999 and Banská Bystrica – Jakub (7280b) 22nd June 2004 (!) V. Franc lgt. et coll.; and Malá Bara (7696) 1st April 1994, T. Lackner & J. Krátký lgt. (Hlaváč & Lackner 1998). This notable species indicates the richest xerothermic habitats of Central Europe. **15 NR**, in the colony of *Lasius niger* 24th April 1993; V, *L. niger* 2nd May 2003. A quite rare, strictly myrmecophilic species – wingless and blind one. **16 HV**, 1st July 1995; DV, 20th Apr. 2002. A typical xerothermic species, occurring locally, but sometimes abundantly in warm pastures. **17 HV**, under the bovine dung 6th June 1993. A conspicuous decreasing species, known due to the parent care. **18 Sd**, in a root cavity of an old oak 2nd July 2002. A rare species of warmer deciduous forests, it in-

dicates well-preserved habitats. **19** Sd, on the flowers of a daisy (*Inula* sp.) 2nd July 2002. **20** DV, on the flower of a yarrow (*Achillea millefolium*) 13th June 2002. A rare thermophilic Mediterranean species at the northern boundary of its range.

21 HV, swept from the xerothermic vegetation 6th July 1993. A rare and little-known Mediterranean species. **22** S, under the bark of an old fallen beech 26th June 2003. A rare species of old deciduous forests, little-known due to its nocturnal activity. **23** V, swept from the forest vegetation 27th May 2003. A rare species of old deciduous forests. **24** R, on a damaged stem of a lime 25th June 2003. A very rare species of ancient forests (the same concerns the species until 29). **25** V, swept from the vegetation at a forest edge 27th May 2003. An extremely rare little-known species, cited only generally: “Bohemia and Slovakia” (Olexa 1993). Detailed data are missing in accessible publications, this may be intention to keep particular sites secret. Probably, referred finding is a single properly localised record for Slovakia. **26** R, on a decaying beech 25th June 2003. **27** Hr, under the bark of an old beech 13th June 2002, 1 died, but non-damaged ind. in a web; R, swept from the forest vegetation 25th June 2003. 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); Krupinská planina Mts – the ‘Čabradská dolina’ valley (7780d), 20th May 1992; Čebovce (7881a), 30th May 1993, V. Franc lgt. et coll.; Považský Inovec Mts: Tematín – Lúka (7373a), Malaise trap, spring/summer 1999 (Majzlan 2002). **28** Sd, knocked down from the dying branches of an oak 2nd July 2002. **29** Hr, swept from the vegetation in an ancient beech forest 19th June 2002. **30** Hr, 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. et coll. The occurrence of this little-known mountain species in the southern part of Strážovské vrchy is very remarkable!

31 R, swept from the forest vegetation 25th June 2003. **32** Hr, 19th June 2002 and R, 25th June 2003. A quite rare species, feeding on insect remains in the webs. **33** Sd, knocked down from the dying branches of a solitary oak 2nd July 2002. A rare species of open deciduous forests. **34** R, on the dying branches of a solitary oak 25th June 2003. An extremely rare species of warmer deciduous forests. Only one historic record is available: Banská Bystrica – Uľanka (7280b) 16th May 1922 (Roubal 1936). **35** S, under the bark of a dying fungi-infected beech 26th June 2003. A rare species of ancient forests, highly threatened or even extinct in several European countries. **36** NR, under the bark of a damaged beech 22nd Apr. 1994. A rare and decreasing species of well-preserved forest habitats. **37** 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). **38** Hr, under the bark of an old beech 28th May 2002; R, the same circumstances 25th June 2003. This species, protected in the whole Europe, is locally quite frequent in older deciduous forests of Slovakia. **39** S, under the bark of a damaged beech 24th June 2004. I have also found it in Veľký Manín (6876d) 7th July 1993. A rare Boreomontane species, one of a few mountain beetles in the Strážovské vrchy Mts. **40** S, under the bark of a sycamore 22nd June 1993. A rare species of old deciduous forests of higher altitudes.

41 NR, under the bark of a solitary beech, damaged by fire 23rd April 1994. An extremely rare species of warm deciduous forests, known from very sporadic old records. The second recent finding: Štúrovo – Vŕšok “Hegyfarok” (8177d) 30th April 1994, V. Kubinec lgt. et coll. **42** Hr, in the star puff-ball fungi (*Geastrum rufescens*) 2nd July 2002; S, the same circumstances 24th June 2004. **43** R, under the bark of a damaged beech 9th June 2003. A rare species of old deciduous forests. **44** DV, under the bark of an oak stump 13th June 2002. A rare species of ancient deciduous forests, apparently threatened throughout Europe. **45** 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. **46** DV, on a decaying oak branches with mycelium 20th April 2002; V, under the bark of old, fungi-infected beech 27th June 2003; S, the same circumstances 26th June 2003. **47** Hr, on a solitary damaged beech 19th June 2002. A rare species of the best-preserved forest habitats (it concerns almost the whole family). **48** S, remains of imago (elytrae) under the bark of a fallen beech 26th June 2003. A remarkable species, considered to be a relict of ancient forests. **49** HV, on the vegetation of xerothermic grassland 28th Apr. 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. **50** DV, in a xerothermic pasture 20th Apr. 2002. A quite rare species, occurring prevalingly during autumn.

51 Sd, knocked down from the dying branches of a solitary oak 2nd July 2002. **52** V, on an old fungi-infected beech 27th June 2003. **53** NR, on an old fungi-infected beech stem 24th Apr. 1993. I have also found it in the projected Nature Reserve 'Podhradská lesostep' (7076a) 21st June 1993. A rare and apparently decreasing species of old deciduous forests. **54** DV, under the bark of an oak infected by soft-fleshed fungi (*Auricularia mesenterica*) 28th April 2002. **55** R, remains of several imagoes and larval tunnels in old dying beech 9th June 2003; Hr, 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. **56** Hr, on the blooming hawthorn (*Crataegus* sp.) in a xerothermic slope 28th Apr. 2002. **57** Hr, on a fallen oak 2nd July 2002. A rare species of old deciduous forests. **58** R, knocked down from the branches of a damaged lime 25th June 2004. **59** DV, swept from the xerothermic vegetation (feather-grass steppe) 18th May 2002. I have also found it near Mojtiín: xerothermic pasture 25th June 2004. A conspicuous Mediterranean species at the northern boundary of its range! **60** S, swept from the vegetation with a spurge (*Tithymalus* sp.) in a xerothermic pasture below the nature reserve 24th June 2004. A relatively high altitude for this thermophilic species!

61 HV, swept from the xerothermic vegetation (with five-leaved clover – *Dorycnium pentaphyllum*) 1st July 1995. This rare Mediterranean species occurs only in the warmest habitats of Central Europe. It apparently reaches the northern boundary of its range here. **62** DV, swept from the xerothermic vegetation 18th May 2002. A very rare species of warm habitats. **63** V, knocked down from the dying branches of a hazel (*Corylus avellana*) 19th June 2003, 2 ind. A very rare species, occurring sporadically in open deciduous forests. **64** Hr, 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.

Conclusions

The territory of Strážovské vrchy Mts is relatively little-known from entomological point of view. The central massif is out of the main roads, lacking infrastructure for higher-status tourists. On the other hand, the main valley of the river Váh is environmentally disturbed or even urbanised. Nevertheless, this orographic unit includes a considerably wide scale of habitats, which are prevalingly relatively well-preserved. Limited human interference is a consequence of deeply cut and steep rocky slopes which are prevailing in these mountains. But less-extreme sites may be threatened by intensive forestry, agriculture and/or building activity.

During occasional excursions I have documented here a lot of rare and remarkable beetles, but also butterflies, spiders, etc. The rarest and most notable beetle species include *Carabus montivagus blandus*, *Satrapes sartorii*, *Attaephilus arenarius*, *Euconnus chrysocomus*, *Batrisesodes buqueti*, *Centrotoma lucifuga*, *Anthaxia olympica*, *Agrilus croaticus*, *Stenagostus rhombeus*, *Microrhagus emyi*, *M. lepidus*, *M. pygmaeus*, *Dromaeolus barnabita*, *Lichenophanes varius*, *Stagetus pilula* (the second record for the Slovakian fauna), *Biphylus lunatus*, *Mycetophagus fulvicollis*, *Pycnomerus terebrans*, *Meloe brevicollis*, *Calamobius filum*, *Antipus macropus*, *Cryptocephalus quatuordecimmaculatus*, *Choragus sheppardi* and *Pseudochoragus piceus*. *Alloonyx quadrimaculatus* and *Hylis cariniceps* are the first seriously localised records for the Slovakian fauna. The species mentioned above are more-or-less clearly thermophilic. On the other hand, a share of the higher-altitude species is surprisingly low; they include *Ocypus macrocephalus*, *Byrrhus glabratus*, *Pedilophorus auratus*, *Benibotarus taygetanus*, *Dendrophagus crenatus*, *Phloeostichus denticollis* and *Melandrya dubia*.

Strážovské vrchy Mts has been appeared as a highly valuable genofund area, requiring special territorial protection. This dispersedly settled 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 the 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 totally.

Nevertheless, effective nature conservation management of this territory will not be simple and lacking conflicts, because it will be necessary to control:

- development of intensive forestry in less-extreme slopes with all the consequences, mainly clean-cutting wood exploitation and conversion of natural forests towards monocultures;
- afforestation of “sterile” rocky-and-scrub slopes [on the other hand, allochthonous black pine (*Pinus nigra*) canopy ought to be totally reduced, especially in Nature Reserves (Vápeč, Rohatín and elsewhere)];
- progressive forest succession in many sites (extensive sheep grazing would be the best solution!);
- inappropriate pasture, especially large-number bovine pasture in the grasslands with shallow unstable soil (risk of erosion);
- illegal collecting of insects, activities of commercial entomologists;
- burning out the vegetation of xerothermic grasslands (fortunately, it is not so frequent here);
- expansion of both cottage and suburban ‘garden colonies’ in the marginal area of Strážovské vrchy;
- conversion of meadows and woodlands towards urban environment;
- development of stone-extraction industry in the whole area (a lot of quarries appear as a serious subject of the landscape disturbance).

Finally, it will be necessary to solve the dilemma of territorial protection of the “forgotten” southern part of this orographic unit.

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