

Leaf – beetles (Coleoptera: Chrysomelidae) from the area "Cheile Someșului Cald – Ic Ponor", Romania

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Crizomelide (Coleoptera: Chrysomelidae) din zona „Cheile Someșului Cald – Ic Ponor”

Rezumat

Cercetările efectuate în zona "Cheile Someșului Cald – Ic Ponor", indică prezența a 38 specii de crizomelide, aparținând la 23 genuri și 7 subfamilii. O parte dintre aceste specii sunt rare sau foarte rare pentru fauna României, fiind bine adaptate la condițiile acestei zone, ceea ce ne conduce să propunem această zonă ca arie protejată.

Keywords: Leaf-beetles, Cheile Someșului Cald (Someșul Cald Gorges), faunistics

The undertook this scientific work both in order to add new data on the group to the relative few known ones, in our country [8-14, 17, 19-23, 25-29, 31-34, 36] and in order to propose the area for ecological protection. This paper represents also a continuation of our series of works on leaf-beetles started few years ago [2 – 7].

Material and methods

Catches of leaf – beetles were made during the summer 1998, in two series in June and august, in the "Cheile Someșului Cald – Ic Ponor" area, about 70 km SW of Cluj – Napoca, Romania. The area represents the end – part of gorge between the mountains not far from the "Someșul Cald" springs water.

The greatest part of the sampled area is covered by resinous forest, mostly *Piceetum* associations. Nearing the river, there are also deciduous species like those of the *Alnus*, *Salix* and *Betula* genera and *Acer pseudoplatanus* and other wooden and herbaceous plant species. The valley very narrow in the gorge, become gradually wider down of the gorge, maintaining a moist microclimate, favourable to hygrophyte vegetation, fact reflected in the specific composition of the leaf – beetles, insects typically phytophagous.

In the mentioned area we established 7 points of sampling: one in the gorge at about 200 m. upstream from the entrance (marked "g"), one to the gorge entrance (marked "e") and other 5 points downstream the gorge entrance at about 200 m. to one – another (marked "d. s. 1 – d. s. 5"). Here, we sampled the vegetation using an insect net, beginning from the river left side to about 50 – 60m. away, in equal amount to each point. We also sampled a point at about 3 km. Downstream the gorge in entrance and another in "Smida" locality nearby the river. A few amount of leaf – beetles, mostly species without membranous wings, where captured in 8 "Barber" traps, placed in the same area on the both sides of the river (marked "C. 19, C20, C25, C32, C37, C41, C49 and C50").

The captured leaf – beetles were killed in 75% alcohol and were kept dry till the identification, made in the laboratory, using various references sources [1, 15, 18, 24, 30, 35, 37]. Identified insects were ranged taxonomically adding the relative abundance, the date and the place of capture and some ecosystem features.

Results and discussion

The table below the faunistical and ecological situation of leaf – beetles family (Chrysomelidae, Coleoptera) in the area "Cheile Someșului Cald – Ic Ponor".

From the 242 leaf beetle individuals captured in the two samplings made in the summer 1998, we identified 38 species from 23 genera and 7 subfamilies.

Having in mind that the work was developed in a mountain area, in a relative restricted zone, were the microclimate were not so variable, we can appreciate a big biodiversity among the leaf – beetles in the sampled area.

More interesting, but predictable thinking to the microclimatic conditions characterised by many rain falls and humidity, was the distribution on subfamilies of the captured species: *Donaciinae* – 2 species, *Criocerinae* – 1 species, *Cryptocephalinae* – 1 species, *Chrysomelinae* – 20 species, *Galerucinae* – 2 species, *Alticinae* – 9 species and *Cassidinae* – 3 species (see also fig. 1).

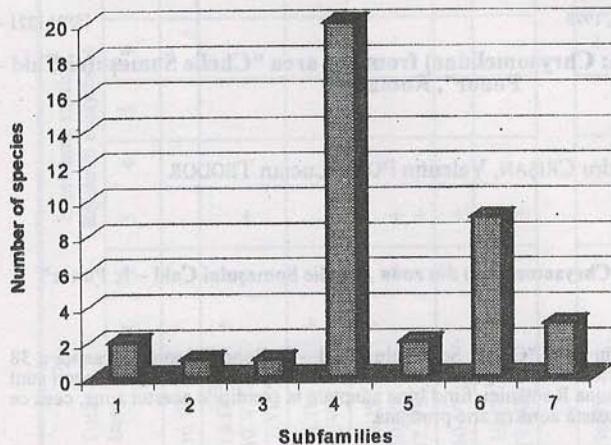


Fig. 1. Diagram of the leaf-beetle subfamilies in the area "Cheile Someșului Cald - Ic Ponor" according to the number of caught species (1 – Donaciinae, 2 – Criocerinae, 3 – Cryptocephalinae, 4 – Chrysomelinae, 5 – Galerucinae, 6 – Alticinae, 7 – Cassidinae)

It is obvious that Chrysomelinae was dominant, this subfamily having many species with high demands for the humidity and dense vegetation. From Alticinae subfamily, which has also a good representation in the area, mostly the hygrophilous species, many without membranous wings, species typical for mountains, were present.

It is remarkable also a series of species rare or even very rare who, in the studied area, had a higher abundance, this zone constituting an ecological refuge for these: *Chrysolina (Colaphoptera) rufa* (DUFTSCHMIDT 1825), ssp. *diminuata* (BECHYNE 1950) and ssp. *staphyleoides* (BECHYNE 1950); *Phaedon armoraciae* (LINNAEUS 1758), *Phaedon levigatus* (DUFTSCHMIDT 1825); *Hydrothassa glabra* (HERBST 1783); *Gonioctena (Goniomena) intermedia* (HELLISEN 1913); *Aphthona ovata* FOUDRAS 1861; *Batophila fallax* WEISE 1888; *Asioresta melanostoma* (REDTENBACHER 1849); *Minota carpathica* HEIKERTINGER 1911; *Apteropeda globosa* (ILLIGER 1794); *Cassida berolinensis* SUFFRIAN 1844.

It is very interesting, on this way, to shows the distribution of *Apteropeda globosa* (Alticinae), species recorded by us for the first time and previously cited only from "Sura Mare" (BIELZ 1887; PETRI 1912; KONNERTH – IONESCU 1963; GRUEV et al. 1993). In the studied area this species had an abundant population with the greatest density inside the gorge (8,67%) and gradually decreased downstream of the gorge entrance, so that in d. s. 4 (about 800 m away from the gorge) the relative abundance was reduced to 0,83 % and far from this point no individuals of this species was captured. This proves that *Apteropeda globosa* depends on the microclimate and phytocoenological conditions of the gorge.

Table 1.
Taxonomical list of the leaf-beetles (Col.: Chrysomelidae) species collected from the area "Cheile Someșului Cald - Ic Ponor" in 1988

Taxa	Date	Specimen nr.	Abundance%	Biotope or Barber trap
Donaciinae				
<i>Plateumaris sericea</i> (L.)	8.06	7	2.89	3 km d.s. the gorge on swampy ground
	8.06	18	7.43	d.s. 4, hyg. veg.
<i>P. (Iuliusiana) consimilis</i> (Schlk.)	8.06	9	3.7	d.s. 4, hyg. veg. with <i>Caltha laeta</i>
Criocerinae				
<i>Oulema melanopus</i> (L.)	8.06	3	1.24	d.s. 1, herb. veg.

Taxa	Date	Specimen nr.	Abundance%	Biotope or Barber trap
	8.06	1	0.41	"e", herb. veg.
	8.06	3	1.24	d.s. 2 herb. veg. with <i>Vaccinetum</i> ass.
	8.06	4	1.65	d.s. 3 herb. veg. in <i>Salicetum</i> ass.
	8.06	7	2.89	d.s. 4 herb. veg. in <i>Piceetum</i> ass.
	8.06	5	2.06	d.s. 5 herb. veg. in <i>Salicetum</i> ass.
Cryptocephalinae				
<i>Cryptocephalus (Burlinius) labiatus</i> (L.)	3.08.	1	0.41	Smida, herb. veg. and bushes
Chrysomelinae				
<i>Chrysolina (Colaphoptera) rufa</i> ssp. <i>diminuata</i> Bech.	8.06	1	0.41	d.s. 1, herb. veg., nearby the river
	8.06	1	0.41	d.s. 3, in <i>Salicetum</i> ass.
	9.06	1	0.41	in C19
	8.06	1	0.41	in C41
	3.08.	1	0.41	in C19
<i>Chrysolina (Colaphoptera) rufa</i> ssp. <i>staphyleoides</i> Bech.	8.06	3	1.24	"e", herb. veg.
	8.06	1	0.41	d.s. 2 herb. veg. with <i>Vaccinetum</i> ass.
	9.06	1	0.41	in C19
	8.06	1	0.41	in C50
	8.06	1	0.41	in C19
	3.08.	1	0.41	in C37
<i>Chrysolina (Menthastriella) herbacca</i> (Duft.)	8.06	1	0.41	d.s. 1, herb. veg., nearby the river
	3.08.	1	0.41	"g", herb. veg. in <i>Piceeto-Aceretum</i> ass.
<i>Chrysolina (Sphacromela) varians</i> (Schall.)	8.06	1	0.41	d.s. 2 herb. veg. with <i>Vaccinetum</i> ass.
	8.06	6	2.48	d.s. 4 hyg. veg. in <i>Piceetum</i> ass.
	8.06	4	1.65	d.s. 5, herb. veg. in <i>Salicetum</i> ass.
<i>Chrysolina (Fastuolina) fastuosa</i> (Scop.)	9.06	1	0.41	"g", herb. veg. in <i>Piceeto-Aceretum</i> ass.
<i>Oreina (Virgulatorina) virgulata</i> (Germ.)	9.06	2	0.83	"g", herb. veg. nearby the river
	8.06	1	0.41	"e", herb. veg.
	8.06	1	0.41	d.s. 2 herb. veg. with <i>Vaccinetum</i> ass.
<i>Colaphus sophiae</i> (Schall.)	9.06	7	2.89	"g", herb. veg. in <i>Piceeto-Aceretum</i> ass.
	8.06	1	0.41	d.s. 1, herb. veg., nearby the river
	8.06	1	0.41	d.s. 5, herb. veg. in <i>Salicetum</i> ass.
	8.06	2	0.83	"g", herb. veg. in <i>Piceeto-Aceretum</i> ass.
	9.06	1	0.41	in C19

Taxa	Date	Specimen nr.	Abondance%	Biotope or Barber trap
	8.06	1	0.41	in C50
	8.06	1	0.41	in C41
	3.08	2	0.83	in C19
<i>Gastrophysa viridula</i> (Deg.)	9.06	1	0.41	"g", herb. veg. in <i>Piceeto-Aceretum</i> ass.
<i>Phaedon armoriciae</i> (L.)	8.06	1	0.41	3 km d.s. of the gorge, herb. veg.
	9.06	1	0.41	d.s.4, hyg. veg. in <i>Piceetum</i> ass.
<i>Phaedon laevigatus</i> (Duf.)	8.06	1	0.41	d.s.4, hyg. veg. in <i>Piceetum</i> ass.
<i>Hydrothassa glabra</i> (Hbst.)	8.06	1	0.41	3 km d.s. of the gorge, nearby the river
<i>Linaceidea aenea</i> (L.)	9.06	1	0.41	"g" on wooden veg.
<i>Chrysomela</i> (Strikerus) <i>vigintipunctata</i> (Scop.)	8.06	1	0.41	d.s.3, in <i>Salicetum</i> ass.
<i>Chrysomela saliceti</i> (Weise)	8.06	2	0.83	3 km d.s. of the gorge, on <i>Salix</i> sp.
<i>Gonioctena</i> (Goniomena) <i>intermedia</i> (Helliesen)	9.06	1	0.41	"g", herb. veg. in <i>Piceeto-Aceretum</i> ass.
<i>Phratora</i> (Chaerocta) <i>vulgatissima</i> (L.)	8.06	1	0.41	d.s.1, on <i>Salix</i> sp.
	8.06	1	0.41	d.s.3, in <i>Salicetum</i> ass.
	3.08	1	0.41	Smida on <i>Salix</i> nearby the river
<i>Phratora vitellinae</i> (L.)	8.06	1	0.41	d.s.5, on <i>Salix</i> sp.
	8.06	8	3.3	d.s.3, in <i>Salicetum</i> ass.
<i>Timarcha</i> (Metallotimarcha) <i>metallica</i> (Laich.)	8.06	1	0.41	in C20
<i>Timarcha tenebricosa</i> (F.)	3.08	2	0.83	in C25
<i>Timarcha</i> (Timarchostoma) <i>goettingensis</i> (L.)	3.08	1	0.41	in C32
Galerucinae				
<i>Galerucella</i> (Neogalerucella) <i>calmariensis</i> (L.)	8.06	1	0.41	d.s.4, on shrubs
<i>Lochmaea caprae</i> (L.)	8.06	2	0.83	3 km d.s. of the gorge on shrubs
	8.06	1	0.41	d.s.3 on <i>Salix caprea</i>
Aldicinae				
<i>Aphton a stussineri</i> Weisse	8.06	7	2.89	d.s.1, herb. veg.
	8.06	1	0.41	"c", herb. veg.
<i>Aphton a ovata</i> Foudras	8.06	1	0.41	d.s.3 in <i>Salicetum</i> ass.
<i>Altica oleracea</i> (L.)	8.06	1	0.41	d.s.1, herb. veg.
<i>Batophila fallax</i> Weisse	8.06	1	0.41	d.s.1, herb. veg.
	8.06	1	0.41	"c", herb. veg.
	8.06	3	1.24	d.s.2, herb. veg. in <i>Vaccinetum</i> ass.
<i>Asiorestia transylvanica</i> Fuss	9.06	3	1.24	"g", herb. veg. in <i>Piceeto-Aceretum</i> ass.

Taxa	Date	Specimen nr.	Abundance%	Biotope or Barber trap
Asiorestia melanostoma (Redt.)	8.06	2	0.83	d.s.2, herb. veg. in <i>Vaccinetum</i> ass.
	8.06	1	0.41	d.s.5, herb. veg. in <i>Salicetum</i> ass.
	8.06	9	3.72	3 km d.s of the gorge, herb. veg.
	8.06	9	3.72	d.s.4, herb. veg. in <i>Piceetum</i> ass.
Crepidodera aurea (Geoffr.)	8.06	1	0.41	d.s.3 on <i>Salix</i> sp.
Minota carpathica Heikertinger	9.06	1	0.41	in C19
Apteropeda globosa (Ill.)	9.06	21	8.67	"g", herb. veg. in <i>Piceeto-Aceretum</i> ass.
	8.06	17	7.02	"e", herb. veg.
	8.06	2	0.83	d.s.4, hyg. herb. veg. in <i>Piceetum</i> ass.
Cassidinae				
Cassida vibex L.	8.06	2	0.83	d.s.5, herb. veg.
Cassida nebulosa L.	8.06	1	0.41	d.s.3, herb. veg.
Cassida berolinensis Suffrian	8.06	1	0.41	d.s.4, hyg. herb. veg. in <i>Piceetum</i> ass.

Abbreviations:

d.s.1 – d.s.5 – collecting sites downstream the river at 200 m, one to another; "e" – the site to the gorge entrance; "g" – the site 200 m, inside the gorge; herb. veg. – herbaceous vegetation; hyg. veg. – hygrophilous vegetation; ass. vegetal association; Cnr. - Barber traps.

Conclusion

The leaf – beetles (Chrysomelidae, Coleoptera) fauna of the area "Cheile Someșului Cald – Ic Ponor" is rich and various, with many rare species and, by its conditions constitute an ecological refuge for some species. This justifies us to propose the area for ecological protection.

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