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APIONIDAE AND NANOPHYIDAE (COLEOPTERA: CURCULIONOIDEA) OF THE ČEMERNO Mt. (The first contribution)

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ABSTRACT. The first data about weevils' species from families Apionidae and Nanophyidae, on the territory of Mountain Čemerno are given. The list based on 235 adult specimens collected during the August 2008 contains 31 species (28 from family Apionidae and three from Nanophyidae). Except taxonomy, all finding details are given (collecting dates, localities, habitats, plants, numbers of females, males and total number of specimens).

Key words: weevils, Apionidae, Nanophyidae, Serbia, Čemerno Mt.

INTRODUCTION

Čemerno is an Mountain located in the west part of Serbia. More precisely approximatelly 30 km south of Čačak and 10 km west of Ivanjica cities, placed betveen Studenica and Ibar Rivers (Fig. 1). The highest point is Smrdljuč, on 1579 m a.s.l. Thanks to the Monastery Studenica, the south part of Čemerno Mt. was, by the decision of UNESCO Commision, together with a big part of the Nature Park Golija, designated as the Biosphere Reserve Golija-Studenica (area 53,804 ha) in October 2001.

This fact was the initial reason for the including this area into reseraching program of Ecological Research Association "Mladen Karaman" from Kragujevac's Faculty of Science for the 2007, 2008 and 2009 years. The weevils were included in researches in the 2008.

Weevil's fauna from this area, until this study, was totaly unknown.

World weevils are systematically merged in the superfamily Curculionoidea. Thanks to the family Curculionidae, it is the largest group (about 80.000 described species) of animals in the world (LYAL and KING, 1996; ALONSO-ZARAZAGA & LYAL, 1999). Except this, 22 other families belong here (ALONSO-ZARAZAGA & LYAL, 1999). Two of them are Apionidae and Nanophyidae. These two groups have recently treated as subfamilies in Apionidae family. There are still a lot of taxonomical problems and dilemmas connected with these very small beetles (on

average about 1-3.2 mm). Apionidae are different from the other weevils by the antennas – they are not knee convoluted.

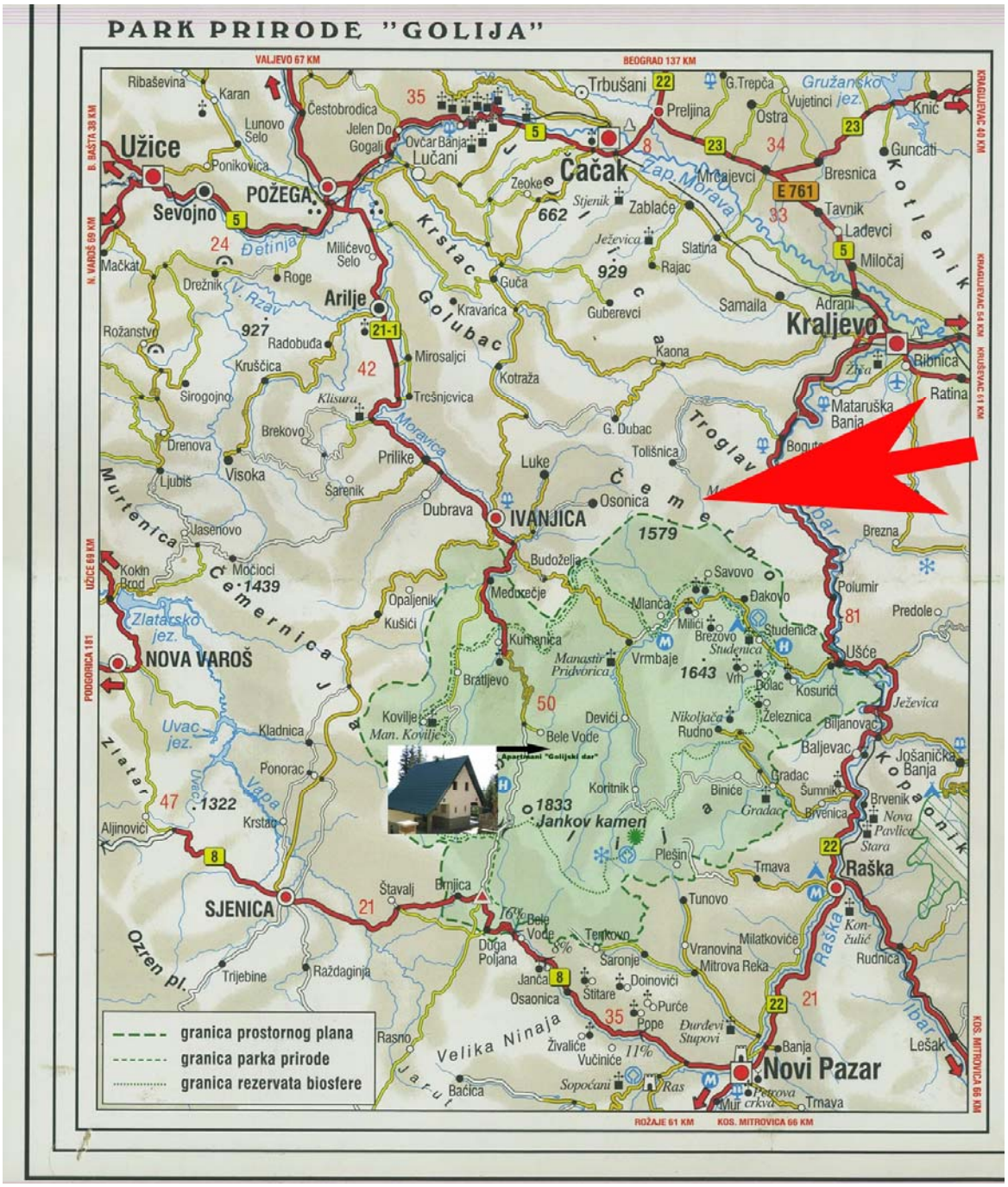

Fig. 1. – Position of Čemerno Mt. in the relation to the Natural Park "Golija".

According to the A. A. Legalov's data there are 179 Apionidae (http://www.zin.ru/Animalia/coleoptera/eng/apion_ru.htm) and 25 Nanophyidae (http://www.zin.ru/ANIMALIA/Coleoptera/eng/nanop_ru.htm) species in Russia.

For the territory of Europe 306 species of Apionidae and 32 of Nanophyidae are registered (ALONSO-ZARAZAGA, 2005).

The data about number of taxa is changing very quickly, because scientists continually discover new species, even in Europe. According to the http://www.galerie-insecte.org/systematique/index.php?liste=ListeColeo&seq=104 there are 354 taxa of Apionidae and 38 of Nanophyidae in Europe.

For the France data from 1989 were 206 taxa of Apionidae and 26 of Nanophyidae (TEMPÉRE and PÉRICART, 1989), while the newest numbers are 225 and 28 respectively (http://www.galerie-insecte.org/systematique/index.php?liste=ListeColeo&seq=104). In 1994 for the Italy 183 Apionidae and 21 Nanophyidae taxa were in the check list (ABBAZZI *et al*., 1994), while ten years latter it was 195 and 22 respectively (COLONNELLI, 2003).

Of course, number of listed taxa for different countries depends not only from the richnes of habitats, but at the sam time from the fact how many researches nad how serious researched the weevils' fauna. For example, for the Britain 116 Apionidae and three Nanophyidae (treaten as the subfamily Nanophyinae within Apionidae) are listed (MORRIS, 1990); for Bulgaria 121 Apionidae (ANGELOV, 1976) and 12 Nanophyidae taxa (ANGELOV, 1980); for the Republic of Moldova 86 Apionidae and 3 Nanophyidae (POIRAS, 1998).

While the other european countries intensively continue faunistic researches refreshing older data (ŠTEKLOVÁ, 1983; EHRET, 1990; WANAT, 1993; MAZUR and WANAT, 1994; OSELLA and RITI, 1995; COLONNELLI, 2003), there is a wery small database on these two families on the territory of ex Yugoslavia. There were only a few works, primarily on Apionidae, published before the nineties years of the last century (TEOFILOVIĆ *et al.*, 1959; TANASIJEVIĆ and TEŠIĆ, 1962; DANON and BALARIN, 1970; TANASIJEVIĆ, 1975; BAJTENOV and MIHAJLOVA, 1980).

The situation is slightly different in the last two decades. Results of recently registered fauna of Apionidae and Nanophyidae in Serbia are given in Table 1.

Table 1. – The sum of data of recently registered fauna of Apionidae and Nanophyidae on territory of Serbia

Place	Coll. period	No. sp. / specim.		Publication
		Apionidae	Nanophyidae	
South Serbia	10-18 VIII 1988	30 / 154	1 / 7	PEŠIĆ, 1996
Kragujevac	1987-1995	74	4	PEŠIĆ, 1998
Goč	V-VIII 1997 and V 1998	24 / 157	0	PEŠIĆ and JELIĆ, 2000
NP Tara	01-04 V 1991 and 01-04 V 2002	22 / 54	0	PEŠIĆ, 2002a
Stara Planina	18-28 VII 1997	30 / 72	3 / 12	PEŠIĆ, 2002b
Gruža	15 V 2001 and 20 VI 2002	22 / 106	4 / 20	PEŠIĆ, 2004
Zasavica	1996-2007	6 / 9	1 / 1	PEŠIĆ and STANKOVIĆ, 2007

MATERIAL AND METHODS

Adult weevils for this study were collected during the summer action of Ecological Research Association "Mladen Karaman", from 16 to 21 August 2008. The wider surrounding of Tolišnica willage (at ≈700 m a.s.l.) was wery carefully covered by collecting. Many different habitats were included in analysis, from ruderal vegetation and meadows, to the more wet places, like meadow near waterfall and willow groves. Except it, the mountain pastures at the top of mountain, Smrdljuč, were explored, as well as the mixed oak-hornbeam forest ner the anchoress of St. Sava in the Savovo willage.

Different collecting techniques were used: sweeping of the ground floor of vegetation, beating of the tree branches and bushes, hand collecting.

Each finding is followed by many data (date, locality, habitat and whenever possible the plant from which beetle was collected).

Many keys were used for the precise species identification (ALONSO-ZARAZAGA, 1990; ANGELOV 1976, 1980; DIECKMANN, 1977; EHRET, 1990; HOFFMANN, 1958; LOHSE, 1981, 1983; MORRIS, 1990; SMRECZYŃSKI, 1965; TEMPÉRE and PÉRICART, 1989).

The list of taxa was prepared according to the newest weevils' nomenclature (ALONSO-ZARAZAGA & LYAL, 1999; ALONSO-ZARAZAGA, 2005).

Each specimen was determined by sex.

All material is kept in the authoress' collection at Faculty of Science in Kragujevac.

RESULTS AND DISCUSSION

During the short period (16-21 August 2008) on the mountain Čemerno a total of 235 adult weevils' specimens collected from families Apionidae (133) and Nanophyidae (92) (Tab. 2).

A total of 31 species (28 Apionidae and three Nanophyidae), belonging to 18 genera (16 Apionidae, two Nanophyidae) were identified (Tab. 2). Identification of two species (*Squamapion oblivium* - two specimens, and *Pirapion redemptum* – one specimen) is suspected and needs a future analysis.

Sex ratio in collected weevil material was 98 males (from this number 40 specimens belong to Nanophyidae) to 135 (52 Nanophyidae) females (Tab. 2). Obviously, the summer conditions had reflexion to this relationship, as well as all results.

In comparision with the similar studies, registered fauna is not so poor (PEŠIĆ, 1996, 1997, 1998, 2002a, 2002b, 2004; PEŠIĆ and JELIĆ, 2000), particularly if we consider the fact that collecting period was short and in the middle of summer, as well as how difficult is collecting of so small sized insects. For example, collectors during a few years collecting in the National Park Fruška Gora Mt. only one apionid specimen have cached (PEŠIĆ and STOJANOVIĆ, 2008) and in Nature Reserve Zasavica seven species with 10 specimens (PEŠIĆ and STANKOVIĆ, 2007) (Tab. 1).

Our results are just preliminary. We hope Čemerno Mt. Will be subject of more weevil studies in the future.

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