

CONTRIBUTION TO KNOWLEDGE OF THE FAUNA OF CYNIPID GALL WASPS (HYMENOPTERA: CYNIPIDAE) OF MT. JASTREBAC (SERBIA)

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Abstract

Thirty-four species in all were recorded in investigation of the fauna of cynipid gall wasps on Mt. Jastrebac. That number includes 30 species from seven genera (*Andricus*, 20 species; *Cynips*, four; *Neuroterus*, two; *Aphelonyx*, one; *Biorhiza*, one; *Dryocosmus*, one; and *Pseudoneuroterus*, one) of the tribe Cynipini; and four species from one genus (*Diplolepis*) of the tribe Diplolepidini. The species *Andricus conificus* (Hartig 1843) and *Cynips cornifex* Hartwig 1843 are here reported for the first time for the fauna of cynipid gall wasps of Serbia. For the recorded species of cynipid gall wasps, the localities, dates, and host plants at Mt. Jastrebac are given in the paper.

KEY WORDS: fauna, Serbia, *Quercus*, *Rosa*

Introduction

The cynipid gall wasps are small insects that induce galls mainly on oak and to a considerably lesser extent on other trees, herbaceous plants, and shrubs. Owing to their striking appearance and structure, the galls of many species can be considered among the most visually attractive in the world. With about 1,400 species described to date, they are after the gall midges (Diptera, Cecidomyiidae) the second-largest group of gall-forming insects. The attention of many investigators throughout the world has been drawn to them due not only to the specific cycle of their development, in which parthenogenetic and gametogenetic generations alternate in some species, while gametogenesis or cyclic parthenogenesis is observed in others, but also to considerable differences in appearance of the females and galls between parthenogenetic and gametogenetic generations, the presence of synergists, and the great diversity of their parasitoids (STONE *et al.*, 2002; CSÓKA *et al.*, 2005; MELIKA, 2006a; ABE *et al.*, 2007). Unfortunately, even though they are common in the oak forests of Serbia and many of them, owing to the appearance of their galls (Fig. 1), constantly attract the attention of ordinary people and entomologists, they have still been faunistically investigated very

little here. According to the data of LANGHOFFER (1915), BAUDYŠ (1928), PAL (1983a and b), LUKAČ (1995), MIHAJLOVIĆ & MARKOVIĆ (2003), GLAVENDEKIĆ & MIHAJLOVIĆ (2004), DREKIĆ (2006), and MARKOVIĆ & STOJANOVIĆ (2007, 2009), only 67 species of cynipid gall wasps have been recorded in Serbia to date. As that is only about half of the total number of species that can be expected here, the cynipid gall wasps have in recent years been the subject of intensive faunistic investigation in Serbia. In these investigations much new data was obtained on the presence, distribution, and hosts of individual species of cynipid gall wasps in Serbia, and we decided to publish some of that data. To this end, results obtained from studying the fauna of cynipid gall wasps of Mt. Jastrebac will be published in the present paper.

Mount Jastrebac is a Rhodopan mountain located in central Serbia between Niš, Aleksinac, Blace, and Prokuplje. It has a total length of about 45 km and is composed of two mountain massifs. The first of them is Veliki (Great) Jastrebac (in the west), whose highest peaks are Velika Dulica (1,492 m above sea level), Pogled (1,481 m a.s.l.), Zmajevac (1,313 m a.s.l.), and Bela Stena (1,257 m a.s.l.). The second massif is Mali (Little) Jastrebac (in the east), whose highest peaks are Kupinjak (946 m a.s.l.), Ljutički Krst (904 m a.s.l.), Crni Vrh (846 m a.s.l.), and Zmijina Glava (693 m a.s.l.).

Mount Jastrebac is one of the most forested mountains in Serbia. It is covered by deciduous and coniferous forests. Of deciduous trees, the most extensively represented species are beech [*Fagus moesiaca* (K.Maly) Czecz.], Turkey oak (*Quercus cerris* L.), Hungarian oak (*Q. frainetto* Ten.), sessile oak [*Q. petraea* (Matt.) Leibl.], common hornbeam (*Carpinus betulus* L.), flowering ash (*Fraxinus ornus* L.), sycamore maple (*Acer pseudoplatanus* L.), and black locust (*Robinia pseudoacacia* L.). Among coniferous trees, the most widespread species are Austrian pine (*Pinus nigra* J.F.Arnold) and Norway spruce [*Picea abies* (L.) H.Karst].

Mount Jastrebac is a favorite excursion destination of the local inhabitants. An artificial lake and a ski trail are present on the mountain itself. Many medicinal mineral springs are located at its foot, together with the spa Ribarska Banja, which is one of the largest rehabilitation centres in Serbia.

Material and Methods

The fauna of cynipid gall wasps of Mt. Jastrebac was investigated during the period from 2006 to 2014 at a total of 12 localities: Dašnica, Golostenka, Grebac, Hotel Mali Jastrebac, Kulina, Naupare, Padina, Ribarska Banja, Supovac, Vrćenovička Crkva, Vukanja, and Zmijina Glava. Galls of different species of cynipid gall wasps were collected at each of them. After being brought into the Laboratory of Entomology of the Faculty of Forestry of Belgrade University, a smaller number of collected galls were herbarized, identified, and deposited in the herbarium of zoocercariae of the Forestry Faculty's Department of Forest Protection. Another batch of galls was put in a photoelector in order to obtain imagoes of cynipid gall wasps. During the period of flight of cynipid gall wasp imagoes, the photoelectors were inspected daily and the emerging imagoes were collected, killed with ether, and mounted.

All of the obtained imagoes of cynipid gall wasps are housed in the insect collection of the Department of Forest Protection.

The collected galls and obtained imagoes were identified by Č. Marković and A. Stojanović using published works of IONESCO (1957), EADY & QUINLAN (1963), AMBRUS (1974), ZEROVA *et al.* (1988), CSÓKA (2005), MELIKA (2006a and b), ÁCS *et al.* (2007), and MELIKA *et al.* (2010).

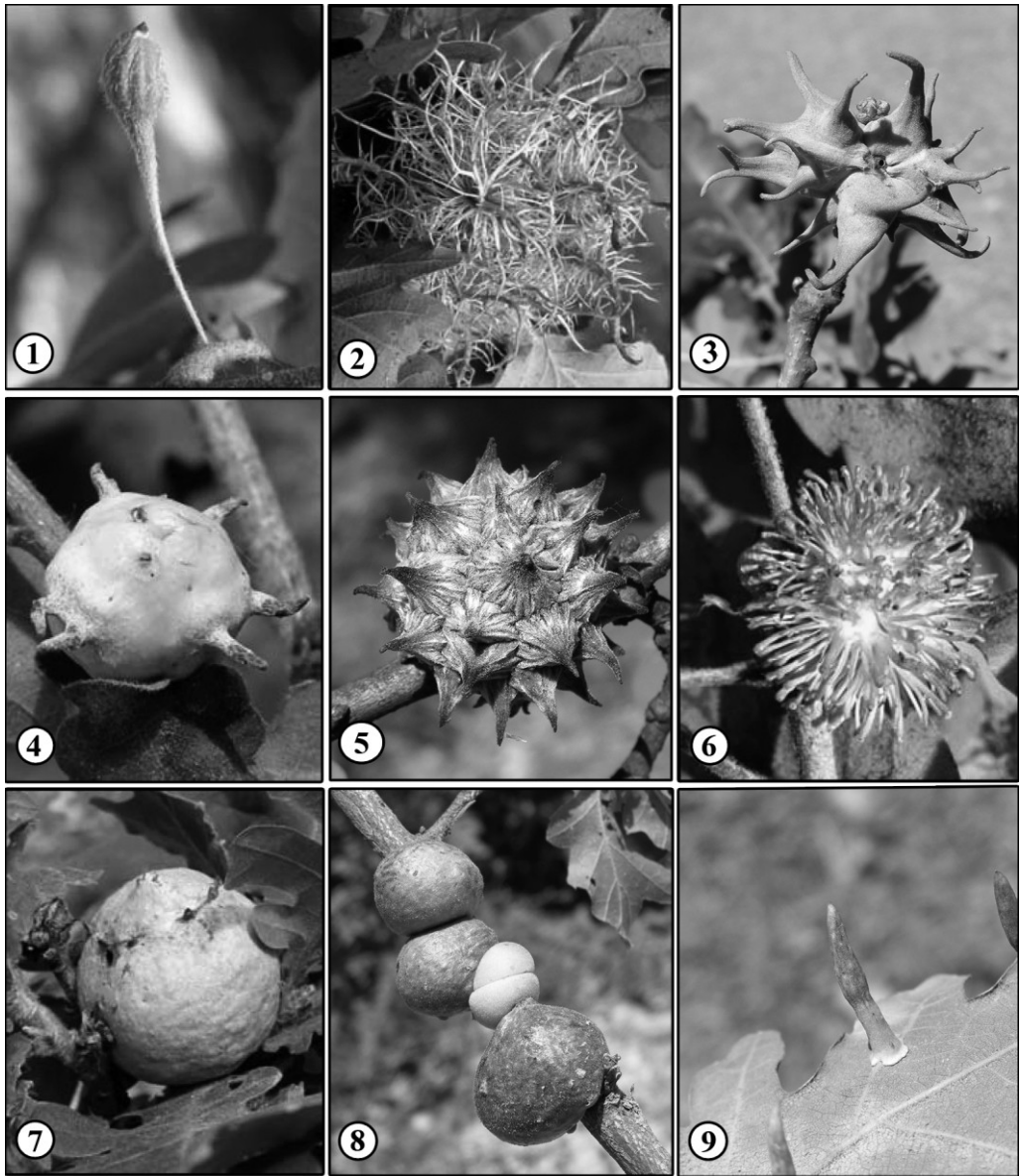


Figure 1. Galls of cynipid gall wasps. 1. *Andricus callidoma* (asexual generation), 2. *A. caputmedusae* (asexual generation), 3. *A. coriarius* (asexual generation), 4. *A. coronatus* (asexual generation), 5. *A. hartigi* (asexual generation), 6. *A. lucidus* (asexual generation), 7. *A. quercustozae* (asexual generation), 8. *Aphelonyx cerricola* (asexual generation), 9. *Cynips cornifex* (asexual generation).

Results and Discussion

Owing to its position and size, Mt. Jastrebac is one of the dominant mountains in central Serbia. Up to now, it is the only Serbian mountain on which the cynipid gall wasps have been faunistically investigated in any great detail.

Thirty-four species in all were recorded in the investigation of the fauna of cynipid gall wasps on Mt. Jastrebac. That number includes 30 species from seven genera (*Andricus*, 20 species; *Cynips*, four; *Neuroterus*, two; *Aphelonyx*, one; *Biorhiza*, one; *Dryocosmus*, one; and *Pseudoneuroterus*, one) of the tribe Cynipini; and four species from one genus (*Diplolepis*) of the tribe Diplolepidini. The species *Andricus conificus* (Hartwig 1843) and *Cynips cornifex* Hartwig 1843 are here reported for the first time for the fauna of cynipid gall wasps of Serbia (LANGHOFFER, 1915; BAUDYŠ, 1928; PAL, 1983a and b; LUKAČ, 1995; MIHAJLOVIĆ & MARKOVIĆ, 2003; GLAVENDEKIĆ & MIHAJLOVIĆ, 2004; MARKOVIĆ & STOJANOVIĆ, 2007, 2009).

Viewed faunistically, the cynipid gall wasps found on Mt. Jastrebac are for the most part common species in oak forests of the Balkan Peninsula and other parts of Europe as well (IONESCU, 1957; EADY & QUINLAN, 1963; AMBRUS, 1974; ZEROVA *et al.*, 1988; MELIKA, 2006a and b; KWAST, 2012). For the fauna of cynipid gall wasps of central Serbia, they are all reported for the first time in the present paper (LANGHOFFER, 1915; BAUDYŠ, 1928; PAL, 1983a and b; LUKAČ, 1995; MIHAJLOVIĆ & MARKOVIĆ, 2003; GLAVENDEKIĆ & MIHAJLOVIĆ, 2004; DREKIĆ, 2006; MARKOVIĆ & STOJANOVIĆ, 2007, 2009). Viewed trophically, the greatest numbers of species were found on *Q. frainetto* (14 species) and *Q. petraea* (14). With respect to the total number of species found on them, other food plants were represented to a far lesser extent (*Q. pubescens*, eight species; *Q. cerris*, six; *Rosa* spp., four; and *Q. robur*, three).

In 28 of the found species, imagoes were not obtained by rearing in the laboratory. For this reason, identification of those species was accomplished solely on the basis of the appearance of the galls that their sexual or asexual generations produce.

The following list identifies the cynipid gall wasps that were recorded on Mt. Jastrebac. They are arranged in alphabetical order within each tribe, their names being in keeping with the names given for this group of insects at the Fauna Europaea site (MITROIU, 2004). In addition to their names, the list of all localities, dates and food plants on which they were recorded on Mt. Jastrebac, together with the number of imagoes and generations (sexual, asexual) whose galls were found.

List of Recorded Species of Cynipid Gall Wasps

Tribe Cynipini

Andricus caliciformis (Giraud, 1859)

Asexual generation bud galls: Dašnica 20.3.2007. *Q. frainetto*, 6.11.2011. *Q. petraea*, Padina 26.8.2012. *Q. frainetto*, Supovac 23.9.2012. *Q. pubescens* Willd., Ribarska Banja 12.8.2013. *Q. frainetto*.

A. callidoma (Hartig, 1841)

Asexual generation bud galls: Golostenka 16.8.2011., 2.5.2013. *Q. petraea*.

A. caputmedusae (Hartig, 1843)

Asexual generation galls on the acorn: Dašnica 20.3.2007. *Q. frainetto*, Naupare 9.1.2014. *Q. robur* L.

A. conificus (Hartig, 1843)

Asexual generation bud galls: Kulina 16.8.2011. *Q. frainetto*, Grebac 9.8.2013. *Q. frainetto*.

A. coriarius (Hartig, 1843)

Asexual generation bud galls: Vrćenovička Crkva 20.3.2007. *Q. frainetto*, Kulina 6.11.2011. *Q. frainetto*, Golostenka 4.8.2012. *Q. petraea*, Supovac 23.9.2012. *Q. frainetto*.

A. coronatus (Giraud, 1859)

Asexual generation bud galls: Dašnica 20.3.2007. *Q. frainetto*, Kulina 2.7.2011., 16.8.2011. *Q. frainetto*, Padina 26.8.2012. *Q. frainetto*, Supovac 23.9.2012. *Q. frainetto*, *Q. pubescens*, Grebac 9.8.2013. *Q. frainetto*, Vukanja 12.8.2013. *Q. frainetto*, Ribarska Banja 12.8.2013. *Q. frainetto*.

A. curator Hartig, 1840

Imagoes sexual generation: Kulina 2.5.2013. *Q. petraea* (2 ♂ 6 ♀).

Sexual generation galls on leaves: Golostenka 2.7.2011., 4.8.2012. *Q. petraea*, Kulina 10.6.2012. *Q. petraea*, Hotel Mali Jastrebac 26.8.2012. *Q. petraea*, Padina 26.8.2012. *Q. petraea*, Grebac 9.8.2013. *Q. petraea*, Vukanja 12.8.2013. *Q. petraea*, Ribarska Banja 12.8.2013. *Q. petraea*.

A. cydoniae Giraud, 1859

Sexual generation galls on tips of twigs: Padina 26.8.2012. *Q. cerris*, Supovac 23.9.2012. *Q. cerris*, Kulina 2.5.2013. *Q. cerris*.

A. galeatus (Giraud, 1859)

Asexual generation bud galls: Kulina 4.8.2012. *Q. frainetto*, 23.9.2012. *Q. pubescens*, Vukanja 12.8.2013. *Q. frainetto*.

A. glutinosus (Giraud, 1859)

Asexual generation bud galls: Zmijina Glava 20.3.2007. *Q. petraea*, Golostenka 2.7.2011., 16.8.2011. *Q. petraea*, Hotel Mali Jastrebac 26.8.2012. *Q. petraea*, Padina 26.8.2012. *Q. petraea*, Grebac 9.8.2013. *Q. petraea*, Vukanja 12.8.2013. *Q. petraea*, Ribarska Banja 12.8.2013. *Q. petraea*.

A. hartigi (Hartig, 1843)

Asexual generation bud galls: Kulina 10.6.2012. *Q. frainetto*, Padina 26.8.2012. *Q. frainetto*, Ribarska Banja 12.8.2013. *Q. frainetto*.

A. kollari (Hartig, 1843)

Asexual generation bud gall: Vukanja 12.8.2013. *Q. frainetto*.

A. lignicolus (Hartig, 1840)

Imagoes asexual generation: Golostenka 6.11.2011. *Q. petraea* (16 ♀).

Asexual generation bud galls: Zmijina Glava 20.3.2007. *Q. petraea*, Golostenka 2.7.2011., 16.8.2011. *Q. petraea*, Kulina 4.8.2012. *Q. petraea*, Hotel Mali Jastrebac 26.8.2012. *Q. petraea*, Padina 26.8.2012. *Q. petraea*, Grebac 9.8.2013. *Q. petraea*, Ribarska Banja 12.8.2013. *Q. petraea*.

A. lucidus (Hartig, 1843)

Asexual generation bud galls: Golostenka 2.7.2011., 16.8.2011., 4.8.2012. *Q. petraea*, Grebac 9.8.2013. *Q. frainetto*, Ribarska Banja 12.8.2013. *Q. petraea*.

A. mitratus (Mayr, 1870)

Asexual generation bud gall: Golostenka 2.7.2011. *Q. petraea*.

A. multiplicatus Giraud, 1859

Sexual generation bud galls: Golostenka 2.7.2011. *Q. cerris*, Hotel Mali Jastrebac 26.8.2012. *Q. cerris*, Padina 26.8.2012. *Q. cerris*, Supovac 23.9.2012. *Q. cerris*, Grebac 9.8.2013. *Q. cerris*, Vukanja 12.8.2013. *Q. cerris*.

A. quercuscalicis (Burgsdorff, 1783)

Asexual generation galls on the acorn: Naupare 9.1.2014. *Q. robur*.

A. quercusradicis (Fabricius, 1798)

Sexual generation root galls on young shoots: Zmijina Glava 20.3.2007. *Q. petraea*, Golostenka 6.11.2011. *Q. petraea*.

A. quercustozae (Bosc, 1792)

Imagoes asexual generation: Kulina 16.11.2011. *Q. frainetto* (2 ♀).

Asexual generation bud galls: Dašnica 20.3.2007. *Q. frainetto*, Kulina 2.7.2011., 16.8.2011. *Q. frainetto*, Padina 26.8.2012. *Q. frainetto*, Supovac 23.9.2012. *Q. pubescens*, Grebac 9.8.2013. *Q. frainetto*, Vukanja 12.8.2013. *Q. frainetto*, Ribarska Banja 12.8.2013. *Q. frainetto*.

A. solitarius (Fonscolombe, 1832)

Asexual generation bud galls: Zmijina Glava 20.3.2007. *Q. petraea*, Kulina 10.6.2012. *Q. frainetto*, Padina 26.8.2012. *Q. petraea*, Ribarska Banja 12.8.2013. *Q. frainetto*.

Aphelonyx cerricola (Giraud, 1859)

Imagoes asexual generation: Kulina 6.11.2011. *Q. cerris* (5 ♀).

Asexual generation bud galls: Vrćenovička Crkva 20.3.2007. *Q. cerris*, Kulina 16.8.2011. *Q. cerris*, Hotel Mali Jastrebac 26.8.2012. *Q. cerris*, Grebac 9.8.2013. *Q. cerris*, Ribarska Banja 12.8.2013. *Q. cerris*, Vukanja 12.8.2013. *Q. cerris*.

Biorhiza pallida (Olivier, 1791)

Imago sexual generation: Golostenka 2.5.2013. *Q. petraea* (1 ♂).

Sexual generation galls at the end of shoots: Kulina 2.7.2011. *Q. petraea*, 16.8.2011. *Q. frainetto*, Golostenka 16.8.2011. *Q. petraea*, Padina 16.8.2012. *Q. frainetto*, *Q. petraea*, Supovac 23.9.2012. *Q. pubescens*, Vukanja 12.8.2013. *Q. frainetto*, Ribarska Banja 12.8.2013. *Q. frainetto*.

Cynips amblycerus (Giraud, 1859)

Asexual generation bud galls: Kulina 6.11.2011. *Q. frainetto*, Supovac 23.9.2012. *Q. pubescens*, Vukanja 12.8.2013. *Q. frainetto*, Ribarska Banja 12.8.2013. *Q. frainetto*, Grebac 9.8.2013. *Q. frainetto*.

C. cornifex Hartig, 1843

Asexual generation galls on leaves: Supovac 23.9.2012. *Q. pubescens*.

C. quercus (Fourcroy, 1785)

Asexual generation galls on leaves: Kulina 16.8.2011., 4.8.2012. *Q. frainetto*, Padina 26.8.2012. *Q. frainetto*, Grebac 9.8.2013. *Q. frainetto*, Ribarska Banja 12.8.2013. *Q. frainetto*, Vukanja 12.8.2013. *Q. frainetto*.

C. quercusfolii Linnaeus, 1758

Asexual generation galls on leaves: Golostenka 17.8.2011. *Q. petraea*, Grebac 9.8.2013. *Q. petraea*, Ribarska Banja 12.8.2013. *Q. petraea*, Vukanja 12.8.2013. *Q. petraea*.

Dryocosmus cerriphilus (Giraud, 1859)

Sexual generation galls on leaves: Kulina 16.8.2011., 6.11.2011. *Q. cerris*, Vukanja 12.8.2013. *Q. cerris*.

Asexual generation galls on twigs: Kulina 2.7.2011., 16.8.2011., 4.8.2012. *Q. cerris*, Golostenka 2.7.2011. *Q. cerris*, Hotel Mali Jastrebac 26.8.2012. *Q. cerris*, Padina 26.8.2012. *Q. cerris*, Supovac 23.9.2012. *Q. cerris*, Grebac 9.8.2013. *Q. cerris*, Vukanja 12.8.2013. *Q. cerris*, Ribarska banja 12.8.2013. *Q. cerris*.

Neuroterus anthracinus (Curtis, 1838)

Asexual generation galls on leaves: Golostenka 16.8.2011., 4.8.2012. *Q. petraea*, Kulina 16.8.2011., 4.8.2012. *Q. frainetto*, Grebac 9.8.2013. *Q. petraea*, Ribarska Banja 12.8.2013. *Q. frainetto*, *Q. petraea*.

N. quercusbaccarum (Linnaeus, 1758)

Imagoes sexual generation: Golostenka 2.5.2013. *Q. petraea* (2 ♂ 8 ♀).

Sexual generation galls on leaves: Kulina 10.6.2012. *Q. frainetto*, Padina 26.8.2012. *Q. frainetto*, *Q. petraea*, Supovac 23.9.2012. *Q. pubescens*.

Asexual generation galls on leaves: Golostenka 16.8.2011. *Q. petraea*, Kulina 16.8.2011., 4.8.2012. *Q. frainetto*, Hotel Mali Jastrebac 26.8.2012. *Q. petraea*, Padina 26.8.2012. *Q. frainetto*, *Q. petraea*, Supovac 23.9.2012. *Q. frainetto*, *Q. pubescens*, Grebac 9.8.2013. *Q. frainetto*, *Q. petraea*, Vukanja 12.8.2013. *Q. frainetto*, Naupare 9.1.2014. *Q. robur*.

Pseudoneuroterus macropterus (Hartig, 1843)

Asexual generation galls: Vrćenovička Crkva 20.3.2007. *Q. cerris*, Golostenka 2.7.2011. *Q. cerris*, Kulina 6.11.2011., 4.8.2012. *Q. cerris*, Hotel Mali Jastrebac 26.8.2012. *Q. cerris*, Padina 26.8.2012. *Q. cerris*, Supovac 23.9.2012. *Q. cerris*, Grebac 9.8.2013. *Q. cerris*, Vukanja 12.8.2013. *Q. cerris*, Ribarska Banja 12.8.2013. *Q. cerris*.

Tribe Diplolepidini

Diplolepis eglanteriae (Hartig, 1840)

Sexual generation galls on leaves: Kulina 4.8.2012. *Rosa* sp., Padina 26.8.2012. *Rosa* sp., Grebac 9.8.2013. *Rosa* sp., Vukanja 12.8.2013. *Rosa* sp., Ribarska Banja 12.8.2013. *Rosa* sp.

D. nervosa (Curtis, 1838)

Sexual generation galls on leaves: Golostenka 4.8.2012. *Rosa* sp., Hotel Mali Jastrebac 26.8.2012. *Rosa* sp., Supovac 23.9.2012. *Rosa* sp., Grebac 9.8.2013. *Rosa* sp., Vukanja 12.8.2013. *Rosa* sp., Ribarska Banja 12.8.2013. *Rosa* sp.

D. rosae (Linnaeus, 1758)

Imagoes sexual generation: Golostenka 6.11.2011. *Rosa* sp. (5 ♂ 10 ♀), Hotel Mali Jastrebac 5.10.2013. *Rosa* sp. (3 ♂ 1 ♀), Padina 26.8.2012. *Rosa* sp. (1 ♂), 5.10.2013. *Rosa* sp. (1 ♀), Supovac 5.10.2013. *Rosa* sp. (1 ♂ 7 ♀).

Sexual generation galls on leaf buds and young shoots: Golostenka 16.8.2011. *Rosa* sp., Hotel Mali Jastrebac 26.8.2012. *Rosa* sp., Supovac 23.9.2012. *Rosa* sp., Grebac 9.8.2013. *Rosa* sp., Ribarska Banja 12.8.2013. *Rosa* sp.

D. spinosissimae (Giraud, 1859)

Sexual generation galls on leaves: Hotel Mali Jastrebac 26.8.2012. *Rosa* sp., Supovac 23.9.2012. *Rosa* sp.

References

- ABE, Y., MELIKA, G. & STONE, G.N., 2007. The diversity and phylogeography of cynipid gallwasps (Hymenoptera: Cynipidae) of the Oriental and eastern Palearctic regions, and their associated communities. *Oriental Insects*, 41: 169 – 212.
- ÁCS, Z., MELIKA, G., PÉNZES, ZS., PUJADE-VILLAR, J. & STONE, G.N., 2007. The phylogenetic relationships between *Dryocosmus*, *Chilasps* and allied genera of oak gall wasps (Hymenoptera, Cynipidae: Cynipini). *Systematic Entomology*, 32(1): 70 – 80.
- AMBRUS, B., 1974. Cynipidae - Galls of *Cecidia cynipidarum*. Magyarországi állatvilága. Fauna Hungariae. Akadémiai Kiadó, Budapest, 119 pp. [in Hungarian]
- BAUDYŠ, E., 1928. Contribution to knowledge of the zoocecids of Yugoslavia and neighboring countries. *Sborník Vysoké školy zemědělské v Brně*, 13: 1-99. [in Czech]
- CSÓKA, G., STONE, G.N. & MELIKA, G., 2005. Biology, Ecology, and Evolution of Gall-inducing Cynipidae. In: Raman, A., Schaefer, C.W. & Withers, T.M. (eds.): *Biology, Ecology, and Evolution of Gall-inducing Arthropods*. Science Publishers, Inc., Enfield (NH), USA, pp.: 573-642.

- DREKIĆ, M., 2006. Study of harmful insects of Pedunculate Oak acorns in a seed plantation on Banovo Brdo. MSc Thesis (manusc.), University of Belgrade, Faculty of forestry, Belgrade. [in Serbian]
- EADY, R.D. & QUINLAN, J., 1963. Hymenoptera. Cynipoidea. Handbooks for the Identification of British Insects. Royal Entomological Society of London, 8/1(a), 81 pp.
- GLAVENDEKIĆ, M. & MIHAJLOVIĆ, L.J., 2004. Phytophagous insects in oak forests of Đerdap National Park. *Šumarstvo*, 4: 19 – 30. [in Serbian]
- IONESCU, M., 1957. Fauna Republicii Populare Romîne, Insecta, Cynipinae. Academia Republicii Populare Romine, 246 pp. [in Romanian]
- KWAST, E., 2012. A contribution to the fauna of Cynipidae (Insecta, Hymenoptera, Cynipidae) of Croatia with a description of an asexual female of *Andricus korlevici* (Kieffer, 1902) nov. comb. *Natura Croatica*, 21(1): 223-245.
- LANGHOFFER, A., 1915. The gall wasps of our oaks. *Šumarski list*, 5 i 6: 134-138. [in Croatian]
- LUKAČ, Đ., 1995. The gall wasp *Cynips quercuscalicis* Burgds. and its parasitoids. Diplom work (manusc.), University of Belgrade, Faculty of forestry, Belgrade. [in Serbian]
- MARKOVIĆ, Č. & STOJANOVIĆ, A., 2007. Contribution to knowledge of the fauna of cynipid gall wasps (Hymenoptera, Cynipidae) of oaks in Serbia. XIII Simpozijum sa savetovanjem o zaštiti bilja sa međunarodnim učešćem, Zlatibor 26. - 30.11.2007., p. 142. [in Serbian]
- MARKOVIĆ, Č. & STOJANOVIĆ, A., 2009. Newly established cynipid gall wasps (Hymenoptera, Cynipidae) in Serbia. Zbornik rezimea Simpozijuma entomologa Srbije, Sokobanja 23. – 27.9.2009., p. 61. [in Serbian]
- MELIKA, G., 2006a. Gall wasps of Ukraine. Cynipidae, vol. 1, Supplement 21, Vestnik Zoologii, Kiev, 300 pp.
- MELIKA, G., 2006b. *Gall wasps of Ukraine*. Cynipidae, vol. 2, Supplement 21, Vestnik Zoologii, Kiev, 192 pp.
- MELIKA, G., CSÓKA, G. & PUJADE-VILLAR, J., 2000. Check-list of oak gall wasps of Hungary, with some taxonomic notes (Hymenoptera: Cynipidae, Cynipinae, Cynipini). *Annales HistoricoNaturales Musei Nationalis Hungarici*, 92: 265-296.
- MELIKA, G., PUJADE-VILLAR, J., ABE, Y., TANG, C.T., NICHOLLS, J., WACHI, N., IDE, T., YANG, M.M., PÉNZES, Z., CSÓKA, G. & STONE, G.N., 2010: Palaearctic oak gallwasps galling oaks (*Quercus*) in the section *Cerris*: reappraisal of generic limits, with descriptions of new genera and species (Hymenoptera: Cynipidae: Cynipini). *Zootaxa*, 2470: 1 – 79.
- MIHAJLOVIĆ, L.J. & MARKOVIĆ, Č., 2003. Harmful species of insects on wild roses. Zbornik rezimea VI savetovanja o zaštiti bilja, Zlatibor 24. - 28.11.2003., 72. [in Serbian]
- MITROIU, M.D., 2004. Fauna Europaea: Hymenoptera: Cynipidae. Fauna Europaea version 1.0. Available through <http://www.faunaeur.org> (accessed on: September 2004).
- PAL, B., 1983a. Contribution to knowledge of the cecidofauna of herbaceous plants of Vojvodina. Zbornik za prirodne nauke Matice Srpske, 65: 131-140. [in Serbian]
- PAL, B., 1983b. Contribution to knowledge of the cecidofauna of herbaceous plants of Vojvodina II. Zbornik radova Prirodno-matematičkog fakulteta Univerziteta u Novom Sadu, biološka serija 13: 67-76. [in Serbian]
- STONE, G.N., SCHONROGGE, K., ATKINSON, R.J., BELLIDO, D. & PUJADE-VILLAR, J., 2002. The population biology of oak gall wasps (Hymenoptera: Cynipidae). *Annual Review of Entomology*, 47: 633 – 668.
- ZEROVA, M.D., DAKONCUK, L.A. & ERMOLENKO, B.M., 1988. Gall-making insects of the European part of USSR. *Perepončatokrilié*. Naukova Dumka, Kiev, 157 pp. [in Russian]

ПРИЛОГ ПОЗНАВАЊУ ФАУНЕ ГАЛИКОЛНИХ СУНИРИДАЕ
(HYMENOPTERA: СУНИРИДАЕ) ПЛАНИНЕ ЈАСТРЕБАЦ (СРБИЈА)

ЧЕДОМИР МАРКОВИЋ

Извод

Проучавањем фауне галиколних Суніридае на планини Јастребац констатоване су укупно 34 врсте. Од тога 30 врста из 7 родова трибуса Сунірини (*Andricus* 20, *Cynips* 4, *Neuroterus* 2, *Aphelonyx* 1, *Biorhiza* 1, *Dryocosmus* 1, *Pseudoneuroterus* 1) и 4 врсте из 1 рода (*Diplolepis*) трибуса Diplolepidini. По први пут за фауну галиколних Суніридае Србије констатоване су врсте *Andricus conificus* и *Cynips cornifex*.

За све констатоване врсте галиколних Суніридае у раду су наведени локалитети, датуми и домаћини на којима су оне на Јастребцу пронађене.

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