

## AYLAX PAPAVERIS (PERRIS 1839) AND BARBOTINIA ORANIENSIS (BARBOTIN 1964): SPECIES NEW TO THE FAUNA OF CYNIPID GALL WASPS (HYMENOPTERA, CYNIPIDAE) OF SERBIA

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### Abstract

Never recorded before in Serbia, the cynipid gall wasps *Aylax papaveris* (Perris 1839) and *Barbotinia oraniensis* (Barbotin 1964) were obtained from capsules of *Papaver rhoeas* Linnaeus 1753 collected toward the end of June 1998 at the locality Surduk (Srem, Serbia). Nine species of parasitoids were also obtained. Among them were the species *Ormyrus capsalis* Askew 1994 and *Baryscapus papaveris* Graham 1991, never before found in Serbia.

KEYWORDS: fauna, Serbia, *Papaver rhoeas*, Cynipidae, parasitoids

### Introduction

In entomological collections, it is often possible to come across species that are very important for certain regions, but whose findings have not yet been published.

Examining material that we collected over the past 20 years in our study of the cynipid gall wasp fauna of Serbia, we found two species obtained from capsules of *Papaver rhoeas* Linnaeus 1753 (Papaveraceae) that had never before been recorded in Serbia (Langhoffer 1915; Baudyš 1928; Pal 1983a and b; Glavendekić & Mihajlović 2004). One of these species was *Aylax papaveris* (Perris 1839), and the other *Barbotinia oraniensis* (Barbotin 1964). Inasmuch as the cynipid gall wasps of herbaceous plants in Serbia have not been investigated at all up to now (Langhoffer 1915; Baudyš 1928; Pal 1983a and b; Mihajlović & Marković 2003; Glavendekić & Mihajlović 2004; Marković & Stojanović 2007, 2009; Marković 2014, 2015), the finding of

these species was very important to us, and for this reason they will be treated in somewhat greater detail in the present paper.

*Aylax papaveris* is a univoltine cynipid gall wasp that in the capsules (more rarely on stems) of *Papaver dubium* Linnaeus 1753, *P. rhoeas* and *P. somniferum* Linnaeus 1753 builds scattered round galls, 2 to 3 mm in diameter. To date, the species has been recorded on the territory of Austria, Bosnia-Herzegovina, Denmark, France, Israel, Poland, Romania, Spain, Sweden, Ukraine and the United Kingdom (Baudyš 1928; Melika 2006).

*Barbotinia oraniensis* is a univoltine cynipid gall wasp that in capsules of *P. dubium*, *P. hybridum* Linnaeus 1753 and *P. rhoeas* builds irregularly spherical galls, 2 to 3 mm in diameter. According to Melika (2006), so far it has been recorded in Estonia, the Crimea, the Mediterranean region and North Africa.

## Materials and Methods

The species *A. papaveris* and *B. oraniensis* were obtained from capsules of *P. rhoeas* that were collected at the Surduk locality (45°05'4624"N, 20°17'37.48"E) (leg. A. Stojanović) on 27 June 1998. After being brought to the laboratory, the collected capsules were put in photoelectors. The photoelectors were inspected daily during the time of appearance of adults of indicated species and their parasitoids. Emerging adults were collected, killed with ether, prepared, identified (by A. Stojanović) and deposited in the insect collection of the Natural History Museum in Belgrade, where they are now housed.

The papers of Melika (2006), Ronquist & Nieves-Aldrey (2001) and Pujade-Villar & Schiopu (2015) were used to identify the obtained adults of *A. papaveris* and *B. oraniensis*. Adults of the obtained parasitoids were identified using the papers of Kalina (1981), Graham (1987, 1991), Zerova & Seryogina (1999, 2006), Askew (1994), Askew & Nieves-Aldrey (2000) and Askew et al. (2004).

## Results and Discussion

From the collected capsules of *P. rhoeas*, 294 adults of *A. papaveris* (131 ♀♀ + 163 ♂♂) and 7 adults of *B. oraniensis* (2 ♀♀ + 5 ♂♂) emerged in April and early May of 1999. In addition to this, at the end of June and during July of 1998, 352 adults of 9 species of parasitoids also emerged: *Eurytoma robusta* Mayr 1878 (2 ♀♀ + 8 ♂♂) (Chalcidoidea, Eurytomidae), *Eupelmus vesicularis* (Retzius 1783) (3 ♀♀) (Chalcidoidea, Eupelmidae), *Ormyrus papaveris* (Perris 1840) (18 ♀♀ + 15 ♂♂) (Chalcidoidea, Ormyridae), *O. capsalis* Askew 1994 (34 ♀♀ + 24 ♂♂) (Chalcidoidea, Ormyridae), *Aprostocetus epicharmus* (Walker 1839) (14 ♀♀ + 97 ♂♂) (Chalcidoidea, Tetrastichinae), *Baryscapus papaveris* Graham 1991 (8 ♀♀ + 5 ♂♂) (Chalcidoidea, Tetrastichinae), *Idiomacromerus papaveris* (Forster 1856) (5 ♀♀) (Chalcidoidea, Torymidae), *Pseudotorymus papaveris* (Thomson 1876) (5 ♀♀ + 2 ♂♂) (Chalcidoidea, Torymidae) and *Exopristus trigonomerus* (Masi 1916) (2 ♀♀) (Chalcidoidea, Torymidae).

This is the first record of *A. papaveris* and *B. oraniensis* in Serbia. Since the species *A. papaveris* was previously recorded in neighboring countries (Bosnia-Herzegovina, Romania) (Baudyš 1928, Melika 2006), its presence in Serbia comes as no surprise. However, the situation with *B. oraniensis* is completely different. Prior to the present study, it was recorded only in maritime regions of Europe, so its occurrence in Serbia was

quite unexpected. Our results show that *B. oraniensis* is able to complete its development in continental Europe.

The herbaceous plant *P. rhoeas* in whose capsules the cynipid gall wasps *A. papaveris* and *B. oraniensis* were found in Serbia is widely distributed. For this reason, it is likely these species will be found in many new localities in Serbia.

As already indicated above, 9 species of parasitoids of the registered cynipid gall wasps were obtained from the collected capsules of *P. rhoeas*. The most abundant among them were *A. epicharmus*, *O. capsalis* and *O. papaveris*. Because all of the obtained parasitoids are polyphagous (Noyes 2016) and since they were reared from a sample in which capsules with the galls of *A. papaveris* and *B. oraniensis* were intermixed, it was impossible to separate them according to host. It is interesting to note that the species *O. capsalis* and *B. papaveris* have not been recorded in Serbia up to now (Noyes 2016).

With the finding of *A. papaveris* and *B. oraniensis*, the fauna of cynipid gall wasps of Serbia has become richer by two species. However, since it is generally thought that the cynipid gall wasps of Serbia have not yet been thoroughly investigated (Marković 2015), it is certain that many more species new to Serbian fauna will be found in the future.

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# AYLAX PAPAVERIS (PERRIS 1839) И BARBOTINIA ORANIENSIS (BARBOTIN 1964) НОВЕ ВРСТЕ ЗА ФАУНУ ГАЛИКОЛНИХ СУНИПИДАЕ (HYMENOPTERA, CYNIPIDAE) СРБИЈЕ

АЛЕКСАНДАР СТОЈАНОВИЋ И ЧЕДОМИР МАРКОВИЋ

## Извод

Из чаура *Papaver rhoeas* Linnaeus 1753 које су крајем јуна 1998. године на локалитету Сурдук (Србија: Срем) прикупљене добијене су галиколне Сунипидае *Aylax papaveris* (Perris 1839) и *Barbotinia oraniensis* (Barbotin 1964) које до сада у Србији нису биле констатоване. Такође добијено је још и 9 врста паразитоида. Мађу њима налазе се врсте *Ormyrus capsalis* Askew 1994 и *Baryscapus papaveris* Graham 1991 које до сада у Србији нису биле пронађене.

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