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NEW FINDINGS OF APHID PARASITOIDS (HYMENOPTERA: APHIDIIDAE) FROM SERBIA AND MONTENEGRO

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Findings of eight new species in Serbia and Montenegro are represented with host records. We reported 12 associations of aphidiine wasps, host aphids and host plants new for Serbia and Montenegro fauna and four new world associations.

KEY WORDS: aphid parasitoids, new aphid hosts, new associations.

INTRODUCTION

Investigations of aphid parasitoid fauna in Serbia and Montenegro over the period 1989-1998 resulted in publishing the check list of aphid parasitoid fauna in Yugoslavia (Serbia and Montenegro) including a review of 88 parasitoid species and host list (TOMANOVIĆ *et al*., 1998) and two new species (STARÝ *et al*., 1998; TOMANOVIĆ AND STARÝ, 2001). Several parasitoid species are rare in Europe, which was discussed (TOMANOVIĆ *et al*., 2000). A great plant diversity in this area, especially in many refugial canyons and high mountains promises a higher aphid parasitoid diversity.

During 1999-2000 we continued investigations on aphid parasitoid diversity and reviewed new findings for Serbia and Montenegro fauna. New parasitoid-host aphid-host plant associations recently found were also presented.

RESULTS AND DISCUSSION

Review of new aphid parasitoid findings from localities in Serbia and Montenegro:

Ephedrus blattnyi Starý

Figs.1, 2

Material: Mt. Durmitor-Mali Međed (1800m), 14.7. 2000, *Pterocomma rufipes* (Hartig) on *Salix retusa*, 1f, leg. O. Petrović; Mt Durmitor-Mali Međed (1800m), 18.7. 2000, *P. rufipes* on *S. retusa*, 1m, leg. S. Tomanović.

Remarks: This is extremely rare species. Described in 1973 on the basis of 15 specimens collected in Vysoki Tatry (Czechoslovakia) reared with *Pterocomma ringdahli* Wahlgren/*Salix caprea* associations (STARÝ AND LECLANT, 1973). *Pterocomma* aphid species are widely distributed in the Holarctic on *Salix* and *Populus* host plants but it is very strange that apart from type material no sample of *E. blattnyi* was gathered. This species is included in revision of the Palaearctic *Ephedrus* species by GARDENFORS (1986). However, he doubts its validity and says: "However, one cannot exclude the possibility that the only known sample represents aberrant specimens of either *E. plagiator* or *E. prociphili* due to an unusual host". Similar doubt was expressed by KOPONEN AND HALME (1993) in their paper: "...never found *E. blattnyi* among *Ephedrus*-parasitoids reared from *Pterocomma spp*., the hosts of the species (STARÝ AND LECLANT, 1973)".

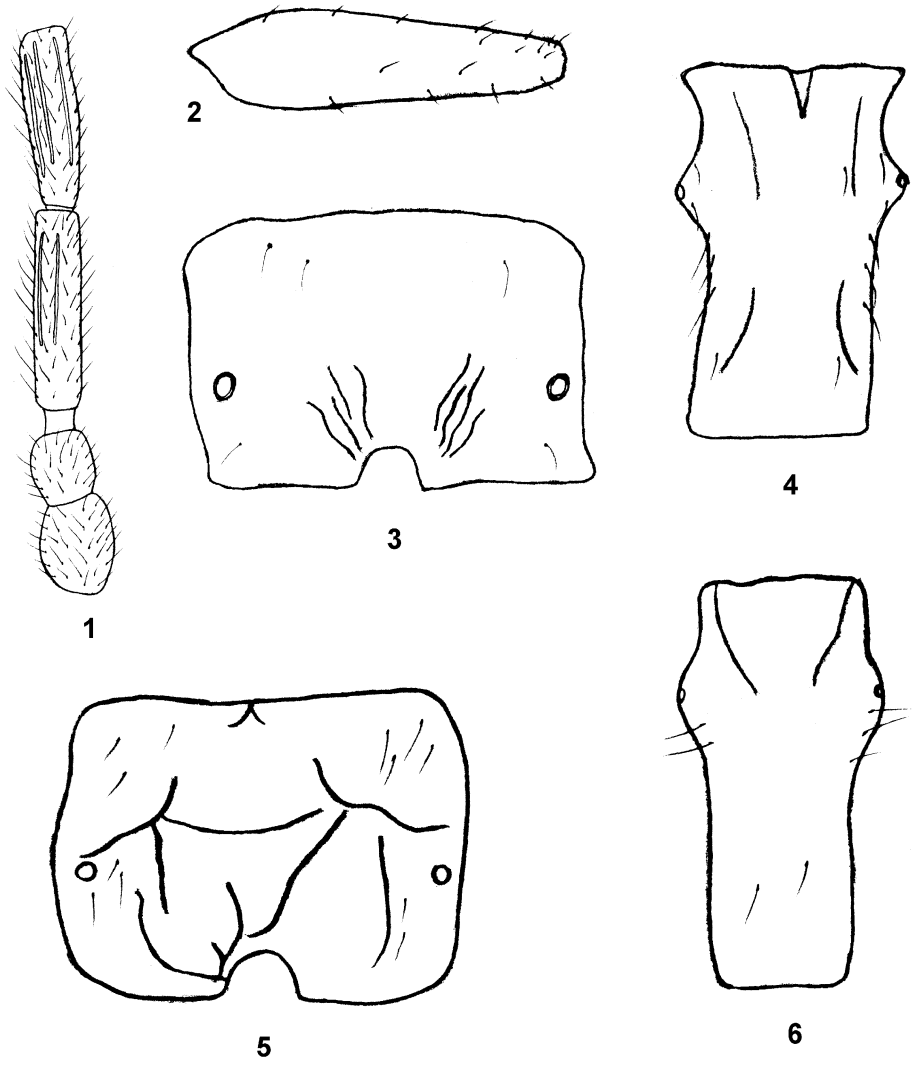
E. blattnyi is morphologically very similar to *E. plagiator* (Nees) and *E. prociphili* Starý (GARDENFORS, 1986). The most remarkable difference in comparison to the mentioned species is yellow base of the first flagellomere (F_1) to the third part and host specificity (*Pterocomma spp*.). In original description the similarity of *E. blattnyi* and *E. niger* Gautier, Bonnamour & Gaumont was presented. This species differs in form and length of F_1 (STARÝ AND LECLANT, 1973), i.e. absence of dorsoventral constriction of ovipositor sheets, typical of *E. niger*, in *E. blattnyi* (GARDENFORS, 1986). Due to unreliable morphological characters of *E. blattnyi* in comparison to *E. plagiator* and *E. prociphili*, in the key for identification of the Palaearctic *Ephedrus* specimens (GARDENFORS, 1986), couplet for *E. blattnyi* says: "Parasitoid of *Pterocomma*. Only known from Czechoslovakia.".

Our *E. blattnyi* specimens reared from *P. rufipes/S. retusa* association have yellow legs, included coxae, while a female specimen has the third of F_1 yellow. On the basis of *E. blattnyi* in Vysoki Tatry and Mt. Durmitor found to date, we can conclude that it is a species whose area is restricted to specific high mountain microhabitats where it parasitizes *Pterocomma* aphid species.

Aphidius pelargonii Starý and Carver

Material: Mt. Zlatibor-Bela zemlja (800m), 28.6.1999, *Acyrthosiphon malvae* (Mosley) on *Geranium pyrenaicum*, 19f 22m, leg. Ž. Tomanović; Mt.

Kopaonik-Marine vode (1800m), 6.7.2000, *A. malvae* on *Geranium sp*., 2f 1m, leg. Ž. Tomanović; Mt. Durmitor-Bosača (1500m), 16.7.2000, *A. malvae* on *Geranium sp*., 10f 6m, leg. Ž. Tomanović; Mt. Durmitor-Mlinski potok (1500m), 13.7.2000, *A. malvae* on *Geranium sp*., 6f 8m, leg. Ž. Tomanović; Mt. Durmitor-Mali Međed (1800m), 14.7.2000, *A. malvae* on *Geranium coeruleum*, 2f 2m, leg. Ž. Tomanović.



Figs 1-6. 1. *E. blattnyi*, base of antenna. 2. *E. blattnyi*, third valvulae. 3. *T. chaetosiphonis*, propodeum. 4. *T. chaetosiphonis*, tergite 1. 5. *Trioxys phyllaphidis*, propodeum. 6. *Trioxys phyllaphidis*, tergite 1.

Remarks: This species is separated from *Aphidius urticae* Haliday complex species on the basis of a short metacarpus, number of antennal segments and antennae thickened at apex (STARÝ AND CARVER, 1979; PUNGERL, 1986). *Aphidius pelargonii* is common parasitoid of *Acyrthosiphon malvae* on *Geranium spp.* in submountain and mountain areas in Serbia and Montenegro.

Aphidius artemisicola Tizado and Nunez

Material: Belgrade-Tošin bunar, 1.8.2000, *Macrosiphoniella sp*. on *Artemisia vulgaris*, 1m, leg. Ž. Tomanović.

Remarks: This species is recently described from the Iberian Peninsula from association *Titanosiphon artemisiae* (Koch)/*Artemisia sp.* (TIZADO AND NUNEZ, 1994). Our finding is a second in South Europe from a new host aphid-*Macrosiphoniella sp*..

Praon megourae Starý

Material: Mt. Durmitor-Barno jezero (1500m), 19.7.2000, *Megoura viciae* Buckton on *Lathyrus halevsteinii*, 1f, leg. Ž. Tomanović.

Remarks: Specialized parasitoid of *Megoura viciae* on *Lathyrus spp*. in open field. *P. megourae* is not common species in Serbia and Montenegro. Probably the Palaearctic distribution.

Lysiphlebus testaceipes (Cresson)

Material: Herceg Novi-Lastva Grbaljska, 31.X. 2000, *Toxoptera aurantii* (B. d. Fonsc) on *Citrus sp.*, 1f 1m, leg. S. Radonjić; Herceg Novi-Lastva Grbaljska, 13.XI. 2000, *Toxoptera aurantii* on *Citrus sp*., 7f 3m, leg. S.Radonjić.

Remarks: This species is of the Nearctic origin. In North and South America it is polyphagous and its host range includes many aphid species (STARÝ, 1995; PIKE *et al*., 2000). *L. testaceipes* was introduced from Cuba to South France during 1972 and 1973, as biocontrol agent against citrus aphids (STARÝ et al., 1988a). The species adapted very well to ecological and climatic conditions of the Mediterranean and spread along the coast of several mediterranean countries (STARÝ *et al*., 1988b).

Harkeria angustivalva (Starý)

Material: Mt. Kopaonik-Samokovska reka (1700m), 5.7.2000, *Nasonovia sp*. on *Hieracium sp*., 3f 1m, leg. Ž.Tomanović.

Remarks: According to ACHTERBERG (1989), *Paramonoctonus* Starý is a synonymized with *Harkeria*. *H. angustivalva* is specialized parasitoid of *Nasonovia* aphid species on *Hieracium* in the highmountain area in Serbia and Montenegro, with rare occurrence in samples. Out of 35 samples of *Hieracium/Nasonovia spp*., and about 2500 reared parasitoids of *M. crepidis* (Haliday), *A. hieraciorum* Starý and *P. pubescens* Starý, we obtained only four specimens. *H. angustivalva* was found in central and west Europe (ACHTERBERG, 1989), but its distribution is probably the Palaearctic.

Trioxys chaetosiphonis Starý

Figs. 3, 4

Material: Mt. Kopaonik-Samokovska reka, 8.7.2000, *Longicaudus trirhodus* (Walker) on *Thalictrum aquilegifolium*, 2f, leg. Ž. Tomanović.

Remarks: Found only in several mountain localities in France in associations of *Chaetosiphon chaetosiphon* (Nevsky)/*Rosa sp*. (STARÝ *et al*., 1971) and *Longicaudus trirhodus/Rosa sp.* (STARÝ *et al*., 1977). We found this species on Mt. Kopaonik in association *L. trirhodus*/*Thalictrum aquilegifolium*. *T. chaetosiphonis* is probably characterized by insular tip distribution in mountains of west Palaearctic. In central Asia, the vicariant species *T. longicaudi* reared from *Longicaudus trirhodus* was described (STARÝ AND JUCHNEVIČ, 1978).

Trioxys phyllaphidis Mackauer

Figs. 5, 6

Material: Mt. Durmitor-Struga (1800m), 14.7.2000, *Phyllaphis phagi* (L.) on *Fagus montana*, 2f, leg. Ž. Tomanović.

Remarks. Specialized parasitoid of *Phyllaphis phagi* on *Phagus spp*. in mountains. The species has probably the Palaearctic distribution, with some records from Western Europe (TOBIAS AND KIRIAC, 1986).

New aphid parasitoid-host aphid-host plants association from Serbia and Montenegro:

*A new aphid parasitoid-host aphid-host plants association:

Lipolexis gracilis Förster/*Aphis newtoni* Theobald/*Iris pseudacorus*

L. gracilis/Metopeurum fuscoviride Stroyan/*Tanacetum vulgare*

Lysiphlebus fabarum (Marsh.)*/Aphis sp./Silene sp.*

**Aphidius cingulatus* Ruthe*/Pterocomma rufipes* (Hartig)*/Salix retusa*

**Monoctonus crepidis/Hyperomyzus hieracii* (Börner)*/Hieracium sp.*

Ephedrus niger/Megoura viciae/Lathyrus halevsteinii

**Ephedrus plagiator/Aphis salicariae* Koch*/Chamaenerion angustifolium*

E. plagiator/Macrosiphum cholodkovskyi (Mordv.)*/Filipendula ulmaria*

**E. lacertosus* (Haliday)*/Macrosiphum cholodkovskyi/Filipendula ulmaria*

E. lacertosus/M. rosae (L.)*/Rosa sp.*

Aphidius aquilus Mackauer*/Euceraphis punctipennis* (Zetterstedt)*/Betula sp.*

Lysaphidus viaticus Sedlag*/Pleotrichophorus glandulosus* (Kaltenbach)*/ Artemisia vulgaris*

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НОВИ НАЛАЗИ ПАРАЗИТСКИХ ОСА (APHIDIIDAE, HYMENOPTERA) У СРБИЈИ И ЦРНОЈ ГОРИ

Ж. Томановић

Извод

У раду су наведени нови налази осам паразитских оса у Србији и Црној Гори и то *Ephedrus blattnyi* Starý, *Aphidius pelargonii* Starý and Carver, *Aphidius artemisicola* Tizado and Nunez, *Praon megourae* Starý, *Lysiphlebus testaceipes* (Cresson), *Harkeria angustivalva* Starý, *Trioxys phyllaphidis* Mackauer, *Trioxys chaetosiphonis* Starý. Дати су основни подаци за сваку врсту (локалитет, датум, пол, домаћин, биљка хранитељка и легатор), као и нека еколошка и таксономска запажања. Наведено је и 12 нових асоцијација паразитска оса, биљна ваш, биљка хранитељка за фауну Србије и Црне Горе од којих су 4 асоцијације нове.

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