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APHIDIUS NEES APHID PARASITOIDS (HYMENOPTERA, BRACONIDAE, APHIDIINAE) IN SERBIA AND MONTENEGRO: TRITROPHIC ASSOCIATIONS AND KEY

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ABSTRACT: In the present paper we review 26 *Aphidius* species from 162 tritrophic associations in Serbia and Montenegro. *Aphidius* species were reared from over 64 aphid hosts. A key for the identification of species is provided.

KEY WORDS: *Aphidius*, key, aphid host, Serbia and Montenegro

INTRODUCTION

The genus *Aphidius* Nees with about 70 species is one of the largest within the subfamily Aphidiinae (MACKAUER & STARÝ, 1967). In Europe 35 species have been found till now. All species are solitary endoparasitoids of aphids (STARÝ, 1970). Many species are involved in agroecosystems, where they represent important natural enemies of pest aphids (STARÝ, 1970; HAGVAR & HOFSVANG, 1991). Some species are mass-produced and used in glasshouses or introduced worldwide as biological control agents against pest aphids (STARÝ, 1974, 1995; HUGHES, 1989; HAGVAR & HOFSVANG, 1991). Since many species have great importance as biocontrol agents, correct identification is very important for their use in biocontrol programs. This is one of the main reasons for the large number of papers regarding the taxonomy of *Aphidius* species (EADY, 1969; STARÝ, 1973; PUNGERL, 1983, 1984, 1986; UNRUH *et al.*, 1989; KAMBHAMPATI & MACKAUER, 1988; PENNACCHIO, 1989; MESCHELOFF & ROSEN, 1990; HÖLLER, 1991; ATANASSOVA *et al.*, 1998).

The identification of *Aphidius* species is based on few morphological characters, such as: wing venation; sculpturation of the anterolateral area of the petiolus (EADY, 1969); antennal segments; shape and setation of the ovipositor sheath; and the tentorial index (tentoriocular line/ intertentorial line) (SMITH, 1944; STARÝ, 1973). Many characters show great intraspecific variability. Knowledge of the host range patterns of separate species can help considerably in the identification process.

Many papers have been recently published regarding the taxonomy and tritrophic associations of *Aphidius* species in Serbia and Montenegro (TOMANOVIĆ *et al.,* 1999; TOMANOVIĆ & STARÝ, 2001; TOMANOVIĆ & KAVALLIERATOS, 2002; TOMANOVIĆ *et al.*, 2004; KAVALLIERATOS *et al.,* 2004).

MATERIAL AND METHODS

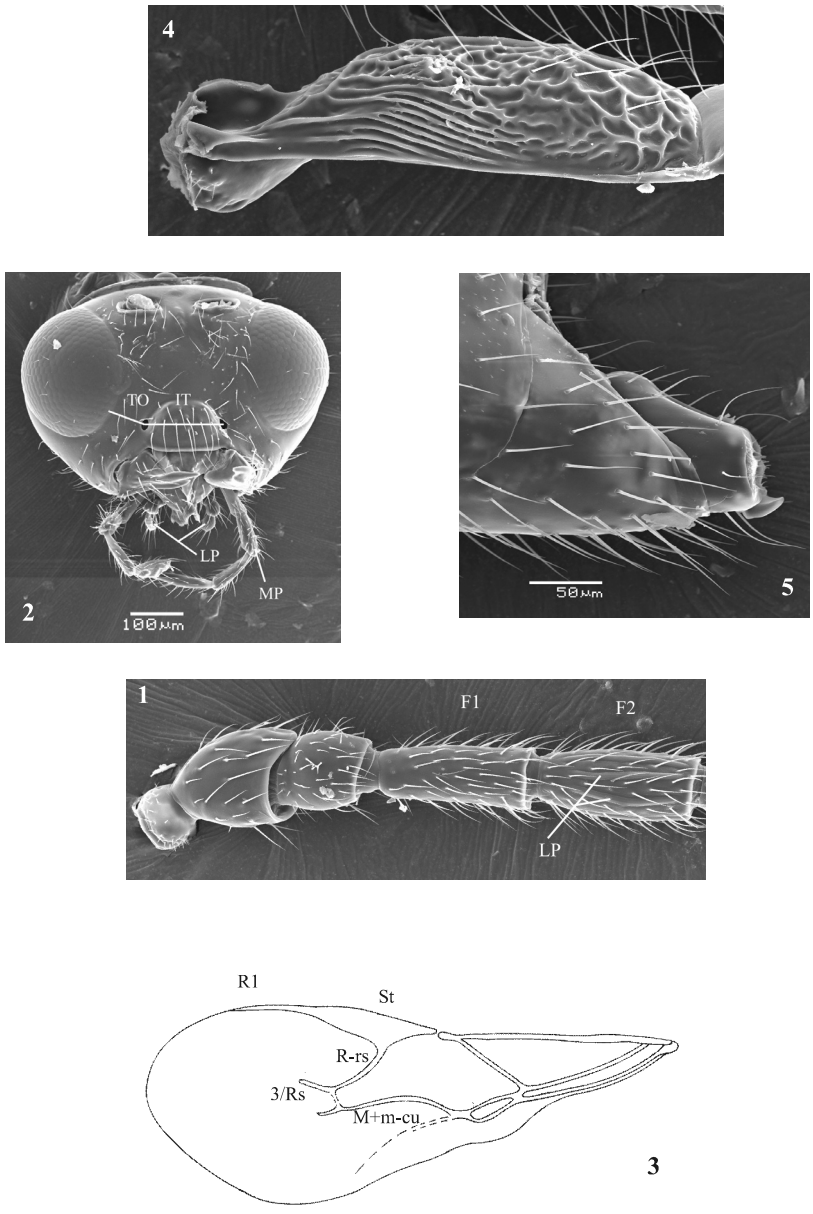
Collection and deposition of specimens

Samples from plants bearing aphid colonies consisting of both live and mummified aphids were collected from many localities in Serbia and Montenegro over the period 1989-2004. Live aphids were preserved in 90% ethyl-alcohol and 75% lactic acid (2:1) (EASTOP & VAN EMDEN, 1972). Mummified aphids of the same species and plant samples were placed in groups in small plastic boxes. Next, the plastic boxes were put inside a growth cabinet. On the lid of each box there was a circular opening covered with muslin for ventilation in order to maintain inside the boxes conditions similar to those existing in the growth cabinet (22.5 °C, 65% relative humidity, 16:8 L:D photoperiod) (KAVALLIERATOS *et al.,* 2001). Slides were made in Canada balsam with dissected parasitoid specimens for later identification.

Nomenclature of aphids is based on REMAUDIÈRE & REMAUDIÈRE (1997). The terminology used in the present paper regarding the diagnostic characters of aphidiines is based on SHARKEY & WHARTON (1997) and KAVALLIERATOS *et al*. (2001).

Synopsis of characters

The quantitative characters used in the key for the identification of *Aphidius* species are given in the range of standard deviation. The key was derived from many series of specimens.



Figs. 1-5. 1. *Aphidius sussi*, basal part of antenna (F_1 - first flagellomere; F_2 - second flagellomere; LP - longitudinal placodes). 2. *Aphidius sussi*, head, front view (TO - tentoriocular line; IT - intertentorial line; MP - maxillary palp; LP - labial palps). 3. *Aphidius sussi*, forewing (R1 - distal abscissa of radial vein; St - stigma; r-rs - fused r-vein and radial sector; 3/Rs - third part of radial sector; M+m-cu vein - fused medial and medio-cubital vein) . 4. *Aphidius sussi*, petiolus, anterolateral area. 5. *Aphidius sussi*, ovipositor sheath, lateral aspect.

The following characters are used in the key: antennae – number of antennal segments, shape of antennae and flagellomere 1 (ratio between length and width of flagellomere 1 at the median level), number of longitudinal placodes on flagellomeres 1 and 2 (Fig. 1); head – tentorial index (tentoriocular line/ intertentorial line), number of maxillary and labial palps (Fig. 2); forewing – shape of the stigma (ratio between length and width of the stigma), ratio between the stigma and the Rs vein (Fig. 3); petiolus – sculpturation of the anterolateral and dorsal surface of the petiolus (Fig. 4), shape of the petiolus (ratio between length and width of the petiolus at the spiracle level); ovipositor sheath – shape (Fig. 5).

A series of specimens rather than a single individual is recommended for successful use of the key.

RESULTS

Review of tritrophic relationships

Abbreviations and symbols

SER - Serbia, MNG – Montenegro; MB – Miloje Brajković; NK- Nickolas G. Kavallieratos; OP – Olivera Petrović; VŽ – Vladimir Žikić; ŽT – Željko Tomanović.

Aphidius absinthii Marshall, 1896

Macrosiphoniella artemisiae Boyer de Fonscolombe: on *Artemisia vulgaris* (224♀♀, 135♂♂), Kovilovo, 03.vi.1993, 15.vi.1993, Belgrade-Dušanovac, 18.vi.1993, Surčin, 19.vi.1993, 17.v.1998, Belgrade-Bežanija, 12.v.2001, leg. ŽT (SER); *Macrosiphoniella* sp.: on *Artemisia scoparia* (2♀♀1♂), Gornjane, 07.vii.1990, leg. OP (SER), *Artemisia sp.* (1♀), Ostrovica, 10.vi.1996, leg. VŽ (SER), *Achillea millefolium* (16♀♀6♂♂), Mt Tara-Rastište, 31.v.1998, Mt Divčibare, 01.viii.1999, Ečka, 24.v.2002, leg. ŽT (SER).

Aphidius aquilus Mackauer, 1961

Callaphis flava Mordvilko: on *Betula sp.* (1623), Belgrade-Hajd park, 16.v.1998, leg. ŽT (SER); *Euceraphis punctipennis* (Zetterstedt): on *Betula pendula* (1♀), Užice-Bela Zemlja, 21.vii.2000, leg. ŽT (SER).

Aphidius artemisicola Tizado and Nunez, 1994

Macrosiphoniella sp.: on *Artemisia vulgaris* (2♂♂), Belgrade-Tošin bunar, 01.viii.2000, leg. ŽT (SER).

Aphidius avenae Haliday, 1834

Acyrthosiphon pisum (Harris): on *Medicago sativa* (13♀♀6♂♂), Kovilovo, 03.v.1992, 21.vi.1992, 26.vii.1992, 10.v.1993, 05.vi.1993, 11.vi.1993, 24.ix.1993, leg. ŽT (SER); *Trifolium pratense* (1♀), Grocka, 22.vi.1995, leg. ŽT (SER); *Acyrthosiphon malvae* (Mosley): on *Achilea tanacetifolia* (3♀♀), Šara Mts-Livadačko jezero, 24.vii.1995 leg. OP (SER); *Acyrthosiphon* sp.: on

Salix retusa (56♀♀44♂♂), Mt Durmitor-Mali Međed, 06.vii.1998, 18.vii.2000, Mt Durmitor-Ledena pećina, 17.vii.2000, leg. ŽT (MNG); *Macrosiphum* sp.: on *Digitalis grandiflora* (1♂), Mt Vlasina, 23.vii.1990 leg. OP (SER); *Myzus persicae* (Sulzer): on *Prunus cerasifera* (1♂), Belgrade, 12.vi.1995, leg. OP (SER); *Sitobion avenae* (Fabricius): on *Hordeum sativa* (1♀), Kanjiža, 08.vi.1995, leg. ŽT (SER); *Sitobion fragariae* (Walker): Žabljak, 04.viii.1992 on *Lolium rigidum* ssp. *lepturoides* (1♀1♂), leg. OP (MNG).

Aphidius eadyi Starý, Gonzalez & Hall, 1980

Acyrthosiphon pisum (Harris): on *Medicago sativa* (58♀♀17♂♂), Padina, 30.v.1989, leg. MB Kovilovo, 19.iv.1992, 03.v.1992, 10.v.1992, 08.vi.1992, 14.vi.1992, 21.vi.1992, 26.vii.1992, 10.viii.1992, 13.ix.1992, 25.iv.1993, 10.v.1993, 05.vi.1993, 11.vi.1993, 24.ix.1993, 14.x.1993, leg. ŽT (SER), Surčin, 11.v.1993, 23.ix.1993, 30.x.1993, 28.iv.1994, 23.v.1994, Bački Monoštor, 18.vii.1996, Bačka Palanka, 18.vi.1996, Inđija, 10.vi.1997, Apatin-Prigrevica, 27.ix.1997, Užice, 23.v.2001, leg. ŽT (SER).

Aphidius eglanteriae Haliday, 1834

Chaetosiphon chaetosiphon (Nevsky): on *Rosa sp*. (1♀1♂), Mt Durmitor-Crno jezero, 05.vii.1995 leg. OP (SER); *Chaetosiphon* sp.: on *Rosa sp*. (2♀♀1♂), Mt Beljanica, 03.viii.1996, Djetinja Gorge, 10.vi.2000, leg. ŽT (SER); *Longicaudus trirhodus* (Walker): *Thalictrum minus* ssp. *majus* (4♀♀1♂), Mt Beljanica, 12.vii.1998, Mt Beljanica-Suvaja, 13.vii.1998, leg. ŽT (SER); *Thalictrum aquilegiifolium* (2♀♀2♂♂), Mt Durmitor-Inđina dolina, 14.vii.2000, leg. ŽT (MNG).

Aphidius ervi Haliday, 1834

Acyrthosiphon pisum (Harris): on *Medicago sativa* (269♀♀178♂♂), Obrenovac, 10.v.1989, leg. OP Padina, 30.v.1989, leg. MB Kovilovo, 19.iv.1992, 23.iv.1992, 03.v.1992, 10.v.1992, 31.v.1992, 08.vi.1992, 14.vi.1992, 21.vi.1992, 09.vii.1992, 15.vii.1992, 26.vii.1992, 27.ix.1992, 10.v.1993, 05.vi.1993, 11.vi.1993, 15.vii.1993, Užice-Duboko, 25.v.1992, Surčin, 11.v.1993, 17.v.1993, 19.vi.1993, 28.vii.1993, 30.x.1993, 28.iv.1994, 23.v.1994, 28.iv.1995, Kosmaj-Babe, 24.v.1995, Perlez, 23.vi.1997, Inđija, 10.vi.1997, Kać, 10.vi.1997, Titel-Vilovo, 10.vi.1997, Novi Sad-Šajkaš, 10.vi.1997, Obedska bara, 07.vi.1997, Uzdin, 22.vi.1997; Apatin-Prigrevica, 27.ix.1997, Belgrade-Radmilovac, 10.v.1998, Užice, 20.vi.2001, leg. ŽT (SER); *Pisum sativum* (19♀♀5♂♂), Smederevska Palanka, 13.vi.1995, Padej, 23.vi.1997, Titel-Vilovo, 10.vi.1997, (SER); *T. pratense* (2♀♀1♂), Grocka, 22.vi.1995, leg. ŽT (SER); *V. faba* (1♀2♂♂), Smederevska Palanka, 07.vi.1995 leg. ŽT (SER); *Vicia sp*.(1♂), Obrenovac, 01.vi.1989, leg. OP (SER); *Acyrthosiphon* sp.: on *Trifolium montanum* (1♂), Mt Durmitor-Sušica, 05.vii.1998, leg. ŽT (MNG); *Aulacorthum solani* (Kaltenbach): on *Pedicularis brachyodonta* (1♀), Šara Mts-Jažinačko jezero, 26.vii.1995 leg. OP (SER); *Diuraphis noxia* (Kurdjumov): on *Hordeum vulgare* (1♀), Kanjiža, 07.vi.1995, leg. OP (SER); *Macrosiphum cholodkovskyi* (Mordvilko): on *Filipendula ulmaria*, (9♀♀9♂♂), Mt Durmitor-Crno jezero, 30.vi.2001, leg. ŽT (MNG); *Macrosiphum euphorbiae* (Thomas): *on Galega officinalis* (1♀), Surčin, 28.v.1998, leg. OP (SER); *Metopolophium dirhodum* (Walker): on *Avena sativa* (1♀), Sjenica, 19.vii.1991, leg. OP (SER); *Avena sp*. (1♀), Zemun, 15.vi.1989, leg. OP (SER); *Hordeum vulgare* (2♀♀1♂), Kanjiža, 08.vi.1995, Stara Pazova, 10.vi.1997, leg. ŽT (SER); *T. aestivum* (5♀♀4♂♂), Kovilovo, 27.iv.1990, 24.v.1990, 12.vi.1990, 22.v.1993, Surčin, 15.vi.1990, 28.v.1998, leg. OP (SER); *Rhopalosiphum padi* (L.): on Poaceae (1♀), Zemun, 22.i.1991, leg. OP (SER); *Schizaphis graminum* (Rondani): on *T. aestivum* (1♀), Obrenovac, 15.vi.1989, leg. OP (SER); *Sitobion ave-*

nae (Fabricius): on *Dactylis glomerata* (1♀1♂), Debeli Lug, 09.vi.1990, leg. OP (SER); *Festuca sp*. (1♀1♂), Šara Mts-Jažinovačko jezero, 26.vii.1995, leg. OP (SER); *Hordeum murinum* (1♀3♂♂), Belgrade-Crveni krst, 14.vi.1997 leg. ŽT (SER); *Hordeum vulgare* (4♀♀), Kanjiža, 08.vi.1995, Kovilovo, 15.v.1997, leg. ŽT (SER); *Hordeum sp*. (3♀♀), Surčin, 25.v.1989, 07.vi.1989, Zemun, 21.vi.1989, leg. OP (SER); on *Secale* sp. (1♀), Zemun, 30.v.1989, leg. OP (SER); on *Setaria verticilata* (3♀♀), Smederevo, 20.x.1991, Lugavčina, 20.x.1991, leg. OP (SER); *T. aestivum* (48♀♀33♂♂), Obrenovac, 05.v.1989, 10.v.1989, 01.vi.1989, 08.vi.1989, 15.vi.1989, 07.vi.1990, 14.vi.1990, Kovilovo, 10.v.1989, 31.v.1989, 09.vi.1989, 27.iv.1990, 24.v.1990, 31.v.1990, 12.vi.1990, leg. OP 22.v.1993, 28.v.1993, 03.vi.1993, leg. ŽT Kraljevo, 18.vi.1989, Surčin, 26.iv.1990, 03.v.1990, 08.v.1990, 19.v.1990, 29.v.1990, 05.vi.1990, leg. OP 04.vi.1993, 12.vi.1993, 19.vi.1993, leg. ŽT Debeli Lug, 09.vi.1990, Ražanj, 11.vi.1990, Majdan, 25.v.1990, Rajac, 18.v.1990, leg. OP Titel-Đurđevo, 10.vi.1997, Smederevska Palanka, 13.vi.1997, Kovilovo, 16.vi.1993, leg. ŽT (SER); *Sitobion fragariae* (Walker): on *Festuca sp*. (1♀), Žabljak, 04.viii.1992, leg. OP (MNG); *Sitobion* sp.: on *Dactylis glomerata* (1♀), Mt Durmitor-Sušica, 3.vii.1998, leg. ŽT (MNG).

Aphidius funebris Mackauer, 1961

Uroleucon cichorii (Koch) on *Cichorium intybus* (27♀♀36♂♂), Belgrade-Topčider, 24.vi.1995, Užice-Trešnjica, 23.vii.1996, Surčin, 8.vi.1997, Kać, 10.vi.1997, Novi Sad, 10.vi.1997, Besni Fok, 10.vi.1997, Stara Pazova, 10.vi.1997, Grocka, 12.vi.1997, leg. ŽT (SER); *Uroleucon cichorii grossum* (Hille Ris Lambers): on *Crepis biennis* (3♂♂), Petrovčić, 7.vi.1997, Mt Zlatar-Radoinsko jezero, 19.vi.1998, leg. ŽT (SER); *Uroleucon doronici* (Börner): on *Doronicum austriacum* (4♀♀5♂♂), Mt Kopaonik-Samokovka, 06.viii.2000, leg. ŽT (SER); *Uroleucon jaceae* (L.): on *Centaurea* sp. (1♀), Mt Beljanica-Resava, 11.vii.1998, leg. ŽT (SER); *Uroleucon murale* (Buckton) : on *Mycelis muralis* (1♀), Mt Durmitor, 27.ix.1991, leg. OP (MNG); *Uroleucon solidaginis* (Fabricius): on *Solidago virgaurea* (2♀♀4♂♂), Mt Kopaonik-Marine vode, 04.vii.2000, leg.ŽT (SER); *Uroleucon sonchi* (L.): on *Sonchus arvensis* (8♀♀13♂♂), Belgrade-Dušanovac, 05.vi.1993, Virpazar-Vranjina, 30.iv.2001, leg. ŽT (SER, MNG); *S. oleraceus* (43♀♀33♂♂), Čenta, 10.vi.1997, Besni Fok, 10.vi.1997, Belgrade-Jajinci, 03.x.1999, leg. ŽT (SER); *Uroleucon* spp.: on *Campanula rapunculus* (1♀♀), Rajac, 22.v.1992, leg. OP (SER); *Carduus acanthoides* (4♀♀), Mt Durmitor-Zminičko jezero, 04.vii.1998, leg. ŽT (MNG); *Centaurea jacea* (1♂), Vlasinsko jezero, 24.vii.1990, leg. OP (SER); *Cichorium intybus* (35♀♀21♂♂), Obrenovac, 14.vi.1990, Mt Zlatar-Uvac, 21.vi.1998, leg. ŽT (SER); *Crepis biennis* (4♀♀8♂♂), Crepaja, 22.vi.1997, leg. ŽT (SER); *Crepis* sp. (34♀♀7♂♂), Vlasinsko jezero, 20.vii.1990, Mt Zlatar-Kokin Brod, 19.vi.1998, Mt Zlatar-Akmačići, 21.vi.1998, (SER), Mt Durmitor-Ivan do, 06.vii.1998, 30.vi.2002, Kolašin-Tara, 23.vii.2001, leg. ŽT (MNG); *Mycelis muralis* (5♀♀), Mt Durmitor, 05.viii.1992, Mt Durmitor-Crno jezero, 30.vi.2001, leg. OP (MNG).

Aphidius galii Tomanović & Kavallieratos, 2002

Linosiphon sp.: on *Galium lucidum* (6♀♀5♂♂), Mt Durmitor-Crno jezero, 30.vi.2001, leg. ŽT [TK2002], (MNG); *Galium schultesii* (18♀♀8♂♂), Mt Durmitor-Crno jezero, 30.vi.2002, Mt Durmitor-Jezerska gora, 01.vii.2002, leg. ŽT (MNG).

Aphidius hieraciorum Starý, 1962

Nasonovia sp. (Mosley): on *Hieracium* spp. (23♀♀9♂♂), Mt Durmitor-Crno jezero, 01.vii.1998, 30.vi.2001, Mt Durmitor-Zminje jezero, 02.vii.1998, 13.vii.2000, Mt Durmitor-Mioč poljana, 14.vii.2000, (MNG), Mt Kopaonik-Ledenica, 03.vii.2000, Mt Kopaonik-Samokovka,

08.vii.2000, Mt Kopaonik-Marine vode, 05.vii.2000, leg. ŽT (SER); *Hieracium murorum* (16♀ ♀4♂ ♂), Mt Durmitor-Ivan do, 30.vi.2002, leg. ŽT (MNG).

Aphidius hortensis Marshall, 1896

Liosomaphis berberidis (Kaltenbach): on *Berberis vulgaris* (21♀ ♀14♂ ♂), Belgrade-Botanical Garden, 02.v.1998, 24.vi.1999, Stražilovo, 27.v.1998, New Belgrade (45), 13.v.2000, leg. ŽT (SER); on *Mahonia aquifolium* (1♀4♂ ♂), Petnica, 17.v.1998, leg. ŽT (SER).

Aphidius linosiphonis Tomanović & Starý, 2001

Linosiphon sp.: on *Galium sylvaticum* (5♀ ♀11♂ ♂), Mt Tara-Derventa Gorge, 31.v.1998, leg. ŽT (SER).

Aphidius matricariae Haliday, 1834

Aphis intybi Koch: on *Cichorium intybus* (1♀1♂), Belgrade-Topčider, 24.vi.1995, leg. ŽT (SER); *Aphis* sp.: on *Lamium* sp. (1♂), Lugavčina, 01.v.1990, leg. OP (SER); *Clematis jackmanii* (2♀ ♀2♂ ♂), Belgrade-Dušanovac, 14.vi. 1995, leg. ŽT (SER); *Galium aparine* (1♀3♂ ♂), Radmilovac, 18.v.2001, leg. ŽT (SER); *Lycium europaeum* (26♀ ♀15♂ ♂), Belgrade-Dušanovac, 06.v.1995, leg. ŽT (SER); *Aulacorthum solani* (Kaltenbach): on *Prunus cerasifera* (1♂), Belgrade, 07.v.1995, (SER); *S. vernalis* (2♀ ♀), Virpazar-Vranjina, 30.iv.2001, leg. ŽT (MNG); *Brachycaudus helichrysi* (Kaltenbach): on *Solidago virgaurea* (1♀), Mt Kopaonik-Marine vode, 04.vii.2000, leg. ŽT (SER); *Capitophorus carduinus* (Walker): on *Cirsium vulgare* (1♂), Šara Mts-Durlov potok, 15.vii.1995, leg. OP (SER); *Capitophorus hippophaes* (Walker): on *Polygonum* sp. (2♂ ♂), Bački Monoštor, 21.vii.1996, leg. OP (SER); *Capitophorus* spp.: on *Polygonum persicaria* (3♀ ♀5♂ ♂), Vlasinsko jezero, 21.vii.1990, leg. OP (SER); *Cirsium arvense* (2♀ ♀2♂ ♂), Kovilovo, 08.vii.1992, leg. ŽT (SER); *Myzus cerasi* (Fabricius): on *Prunus avium* (5♀ ♀1♂), Belgrade-Dušanovac, 06.vi.1995, leg. ŽT (SER); *P. cerasus* (3♀ ♀3♂ ♂), Belgrade, 07.v.1995, Belgrade-Vidikovac, 06.v.2001, leg.OP (SER); *Myzus cymbalariae* Stroyan: on *Cymbalaria muralis* (1♀), Belgrade, 10.v.1998, leg. OP (SER); *Myzus langei* (Börner) on *Galium lucidum* (2♀ ♀2♂ ♂), Durmitor-Zminje jezero, 03.vii.1995, leg. OP (MNG); *Myzus lythri* (Schr.): on *Lythrum salicaria* (1♀), Bački Monoštor, 16.vii.1996, leg. OP (SER); *Myzus persicae* (Sulzer): on *Capsicum annuum* (4♀ ♀2♂ ♂), Belgrade, 17.vi.1993, leg. OP (SER); *P. cerasifera* (3♀ ♀1♂), Belgrade-Konjarnik, 21.iv.1995, Belgrade, 12.VI. 1995, leg. OP (SER); *Solanum tuberosum* (3♀ ♀2♂ ♂), Belgrade-M.M.Lug, leg. MB (SER); *Viola* sp. (189♀ ♀107♂ ♂), New Belgrade (62), 10.v.2001, leg. ŽT (SER); *Myzus* sp.: *Stellaria media* (1♀), Belgrade-Radmilovac, 09.v.1998, leg. ŽT (SER); *Ovatus mentharius* (Van der Goot): on *Mentha* sp. (2♀ ♀), Bački Monoštor, 21.vii.1996, leg. OP (SER); *Phorodon humuli* (Schrank): on *Humulus lupulus* (5♂ ♂), Belgrade-Dušanovac, 27.v.1995, leg. ŽT (SER); on *Prunus cerasifera* (3♀ ♀), New Belgrade, 17.vi.1993, leg. OP (SER); *Rhopalosiphum nymphaeae* (L.): on *Alisma plantago-aquatica* (2♂ ♂), Belgrade-Ratno ostrvo, 9.vi.1997, leg. OP (SER);

Aphidius microlophii Pennacchio & Tremblay, 1986

Microlophium carnosum (Buckton): on *Urtica dioica* (28♀ ♀12♂ ♂), Debeli Lug, 09.vi.1990, leg. OP Belgrade-Dušanovac, 29.v.1993, leg. ŽT Belgrade-M.M. Lug, 19.v. 1994, leg. MB Užice-Ponikovica, 01.vi.1997, Obedska bara, 07.vi.1997, Belgrade-Košutnjak, 26.iv.1998, Belgrade, 06.v.1998, leg. ŽT (SER); on *Urtica* sp. (2♀ ♀), Ostrovica, 12.v.1998, leg. VŽ (SER).

Aphidius montenegrinus Tomanović & Kavallieratos, 2004

Acyrthosiphon daphnidis Ilharco: on *Daphne alpine* (5♀♀6♂♂), Mt Durmitor- Zabojsko jezero, 01.viii.2002, leg. ŽT and NK (MNG).

Aphidius cf. pelargonii Starý & Carver, 1979

Acyrthosiphon malvae (Mosley): on *Geranium pyrenaicum* (19♀♀22♂♂), Mt Zlatibor-Bela Zemlja, 28.vi.1999, Mt Durmitor-Zminje jezero, 14.vii.2000, leg. ŽT (SER, MNG); *G. caeruleatum* (4♀♀2♂♂), Mt Durmitor-Mali Medjed, 18.vii.2000, leg. ŽT (MNG); *Geranium* spp. (20♀♀17♂♂), Mt Kopaonik-Marine vode, 06.vii.2000, Mt Kopaonik-Samokovka, 09.vii.2000, (SER), Mt Durmitor-Bosača, 16.vii.2000, Mt Durmitor-Mlinski potok, 13.vii.2000, Mt Durmitor-Zminje jezero, 13.vii.2000, leg. ŽT (MNG).

Aphidius phalangomyzi Starý, 1963

Macrosiphoniella oblonga (Mordvilko): on *Artemisia vulgaris* (1♀), Bački Monoštor, 13.vi.1996, leg. OP Belgrade-Tošin bunar, 01.viii.2000, leg. ŽT (SER).

Aphidius rhopalosiphi De Stefani, 1962

Metopolophium dirhodum (Walker): on *Avena sativa*, (4♀♀1♂), Zemun, 26.v.1989, 28.v.1989, 05.vi.1989, 21.vi.1989, leg. OP Nova Pazova, 10.vi.1997, leg. ŽT (SER); *Hordeum vulgare* (1♂), Belgrade-Crveni krst, 06.vi.1997, leg. ŽT (SER); *Poa trivialis* (2♀♀2♂♂), Petnica, 18.v.1998, leg. ŽT (SER); *Triticum aestivum* (17♀♀1♂), Surčin, 15.v.1990, 20.v.1990, Kovilovo, 11.v.1990, 24.v.1990, 12.vi.1990, Lugavčina, 18.vi.1990, Obrenovac, 07.vi.1990, 14.vi.1990, Debeli Lug, 09.vi.1990, leg. OP (SER); *Zea mays* (17♀♀13♂♂), Kovilovo, 24.vi.1992, 08.vii.1992, 14.vii.1992, 25.vii.1992, 01.viii.1992, leg. ŽT (SER); *Rhopalosiphum padi* (L.): on *Triticum aestivum* (1♀), Kovilovo, 20.vi.1990, leg. OP (SER); on *Zea mays* (1♀), Surčin, 25.vi.1993, leg. ŽT (SER); *Sitobion avenae* (Fabricius): on *Festuca* sp. (1♀1♂), Šara Mts-Jažinovačko jezero, 26.vii.1995, leg. OP (SER); *Hordeum vulgare* (1♀), Kovilovo, 15.v.1997, leg. ŽT (SER); *Hordeum* sp. (2♀♀), Surčin, 07.vi.1989, leg. OP (SER); *Setaria* sp. (3♀♀3♂♂), Lugavčina, 20.x.1991, leg. OP (SER); *Sorghum* sp. (1♀), Lugavčina, 20.x.1991, leg. OP (SER); *Triticum aestivum* (16♀♀5♂♂), Kovilovo, 09.vi.1989, 16.vi.1989, 27.iv.1989, 24.v.1990, 31.v.1990, Obrenovac, 01.vi.1990, 07.vi.1990, Surčin, 20.v.1989, 15.vi.1990, 21.vi.1990, Debeli Lug, 09.vi.1990, Inđija, 21.vi.1991, leg. OP (SER), Toševo, 1979, leg. KO, (BUL); *Zea mays* (4♂♂), Surčin, 25.vi.1993, 04.vii.1993, Čurug, 23.vi.1997, leg. ŽT (SER); *Sitobion fragariae* (Walker): on *Dactylis glomerata* (1♂), Debeli Lug, 09.vi.1990, leg. OP (SER).

Aphidius ribis Haliday, 1834

Cryptomyzus ribis (L.): on *Ribes rubrum* (93♀♀ 178♂♂), Zemun, 21.v.1989, Belgrade-Slanci, 27.iv.1995, leg. OP Belgrade-Dušanovac, 01.vi.1995, Obedska bara, 15.vi.1996, 07.vi. 1997, leg. ŽT (SER); *R. nigrum* (1♀2♂♂), Užice, 05.v.1995, 08.v.1999, leg. ŽT (SER); *Ribes* spp. (5♀♀), Lugavčina, 01.v.1990, (SER), Mt Durmitor-Crno jezero, 02.vii.1995, leg. OP (MNG).

Aphidius rosae Haliday, 1834

Macrosiphum rosae (L.): on *Knautia arvensis* (21♀♀10♂♂), Mt Zlatar-Aljinovići, 12.vii. 1991, leg. OP Mt Zlatibor-Ribničko jezero, 07.viii.1999, Mt Kopaonik-Pančićev vrh, 06.vii.2000,

leg. ŽT (SER); *K. longifolia* (10♀ ♀5♂ ♂), Šara Mts-Jažinačko jezero, 26.vii.1995, leg. OP (SER); *Knautia* sp. (3♀ ♀1♂ ♂), Mt Durmitor-Jezerska gora, 01.vii.2002, leg. ŽT (MNG); *Rosa canina* (4♀ ♀4♂ ♂), Belgrade-Bežanija, 15.v.1993, leg. ŽT (SER); Belgrade-Studentski grad, 16.v.1995, leg. ŽT Šar Mts, 19.vii.1995, leg. OP Obedska bara, 14.x.1995, Belgrade -Vračar, 30.x.1995, Belgrade-Crveni krst, 17.vi.1996, leg. ŽT Mt Beljanica, 03.viii.1996, leg. OP Grocka, 10.vi.1997, leg. ŽT; Bački Monoštor, 16.vii.1997, leg. OP Belgrade-Botanical Garden, 13.v.1999, 24.vi.1999, leg. ŽT (SER), Mt Durmitor-Crno jezero, 03.vii.1998, Mt Durmitor-Ražana glava, 04.vii.1998, Mt Durmitor-Zminičko jezero, 04.vii.1998, leg. ŽT (MNG), *Scabiosa columbaria* (4♀ ♀), Mt Šara, 19.vii.1995, leg. OP (SER); *Macrosiphum* sp.: on *Rosa* spp. (3♀ ♀2♂ ♂), Mt Zlatar-Aljinovići, 12.vii.1991, leg.OP Belgrade-M.M.Lug, 18.iv.1994, leg. MB Belgrade, 29.v.1995, leg. OP (SER), Ostrovica, 15.v.1997, leg. VŽ.

Aphidius salicis Haliday, 1834

Cavariella aegopodii (Scopoli): on *Anethum graveolens* (2♀ ♀), Bački Monoštor, 18.vii.1996, leg. OP (SER); *Chaerophyllum aureum* (2♀ ♀1♂), Mt Kopaonik-Marine vode, 06.vii.2000, Mt Durmitor-Crno jezero, 30.vi.2001, leg. ŽT (SER); *Daucus carota* (1♀), Surčin, 18.vi.1997, leg. OP (SER); *Salix caprea* (1♀), Obedska bara, 07.vi.1997, leg. ŽT (SER); *S. retusa* (1♀), Mt Durmitor-Mali Međed, 18.vii.2000, leg. ŽT (SER); *Cavariella* spp.: on *Pimpinella anisum* (1♀2♂ ♂), Kovačica, 22.vi.1997, leg. ŽT (SER); *Anethum graveolens* (4♀ ♀3♂ ♂) Kikinda, 23.vi.1997, leg. ŽT (SER); *Conium maculatum* (2♀ ♀14♂ ♂), Petnica, 27.vi.1997, leg. ŽT (SER); *Salix* sp. (9♀ ♀7♂ ♂), Mt Tara-Derventa, 31.v.1998, leg. ŽT (SER).

Aphidius sonchi Marshall, 1896

Hyperomyzus lactucae (L.): on *Sonchus oleraceus* (38♀ ♀22♂ ♂), Vlasinsko jezero, 01.vii.1990, leg. OP Belgrade-Jajinci, 03.x.1999, leg. ŽT (SER); *Hyperomyzus* sp.: on *Hieracium* sp. (3♀ ♀), Mt Durmitor-Zminje jezero, 17.viii.1997, leg. OP (MNG).

Aphidius sussi Pennacchio & Tremblay, 1988

Delphiniobium junackianum Karsch.: on *Aconitum firmum* (87♀ ♀28♂ ♂), Mt Kopaonik-Metođe, 03.vii.2000, 07.viii.2000, Mt Kopaonik-Samokovka, 09.vii.2000, 06.viii.2000, 25.viii.2000, Mt Kopaonik-Marine vode, 06.viii.2000, Mt Kopaonik-Konaci, 23.viii.2000, leg. ŽT (SER); *A. toxicum* ssp. *bosniacum* (61♀ ♀35♂ ♂), Mt Durmitor-Crno jezero, 02.vii.1998, 15.viii.1998, 13.vii.2000, 19.vii.2000, 30.vi.2002, 04.vii.2002, leg. ŽT (SER), Mt Kopaonik-Metođe, 18.viii.1998, 20.vii.1999, leg. OP (SER), Biogradska gora, 26.vii.2001, Mt Durmitor-Sušica, 02.vii.2002, leg. ŽT (MNG).

Aphidius tanacetarius Mackauer, 1962

Metopeurum fuscoviride Stroyan: on *Tanacetum vulgare* (23♀ ♀21♂ ♂), Vlasinsko jezero, 24.vii.1990, Bački Monoštor, 16.vii.1996, leg. OP Mt Vlasina, 01.viii.1996, Suva Mts-Glogovac, 12.vii.1999, Suva Mts-Toponički put, 19.vii.1997, Mt Suva planina-Kosmovac, 17.vii.1999, leg. ŽT.

Aphidius urticae Haliday, 1834

Acyrthosiphon daphnidis Ilharco: on *Daphne alpina* (3♀ ♀), Mt Durmitor-Zabojsko jezero, 01.vii.2002, leg. ŽT (MNG); *Acyrthosiphon pisum* (Harris): on *Medicago sativa* (1♀), Belgrade-

Radmilovac, 09.v.1998, leg. OP (SER); *Pisum sativus* (1♀), Smederevska Palanka, 13.vi.1997, leg. ŽT (SER); *Amphorophora ampullata* Buckton: on *Dryopteris* sp. (3♀♀1♂), Divčibare, 05.viii.1999, leg. OP (SER); *Amphorophora* sp.: on *Rubus hirtus* (12♀♀12♂♂), Petnica, 18.v.1998, Mt Tara-Derventa, 31.v.1998, Užice-Tatinac, 20.v.2000, leg. ŽT (SER); *Aulacorthum solani* (Kaltenbach): on *Artemisia vulgaris* (1♀), New Belgrade, 13.v.1998, leg. ŽT (SER); *Myosoton aquaticum* (3♂♂), Sremska Mitrovica, 24.v.1998, leg. OP (SER); *Sanguisorba minor* (1♀), Mt Durmitor-Crno jezero, 01.vii.1998, leg. OP (MNG); *Macrosiphum daphnidis* Börner: on *Daphne mezereum* (6♀♀6♂♂), Mt Durmitor, 05.viii.1992, leg. OP Mt Durmitor-Mioč poljana, 14.vii.2000, Mt Durmitor-Ivan do, 30.vi.2002, leg. ŽT (MNG); *Macrosiphum euphorbiae* (Thomas): on *Euphorbia salicifolia* (6♀♀), Petnica, 17.v.1998, leg. ŽT (SER); *Macrosiphum funestum* (Macchiati): on *Rubus* sp. (10♀♀1♂♂), Šar Mts, 17.vii.1995, leg. OP (SER); *Macrosiphum oredonense* Remaudière: on *Lonicera nigra* (8♀♀2♂♂), Mt Durmitor-Zminje jezero, 30.vi.2002, Mt Durmitor-Sušica, 02.vii.2002, leg. ŽT (MNG); *Macrosiphum prenanthidis* Börner on *Cicerbita pancicii* (4♂♂), Biogradska reka, 24.vii.2001, leg. ŽT (MNG); on *Prenanthes purpurea* (1♀1♂), Mt Durmitor-Crno jezero, 04.vii.2002, leg. ŽT (MNG); *Macrosiphum* sp.: on *Euphorbia amygdaloides* (10♀♀), Mt Durmitor-Ivan do, 30.vi.2002, leg. ŽT (MNG); *Silene vulgaris* (14♀♀3♂♂), Mt Durmitor-Mlinski potok, 30.vi.2002, leg. ŽT (MNG); *Valeriana dioica* subsp. *simplicifolia* (1♀1♂), Mt Durmitor-Zminje jezero, 30.06.2002, leg. ŽT (MNG); *Microlophium carnosum* (Buckton): on *Urtica dioica* (27♀♀12♂♂), Debeli Lug, 09.vi.1990, leg. OP Belgrade-Dušanovac, 29.v. 1993, leg. ŽT Belgrade-M.M.Lug, 19.v.1994, leg. MB Užice-Ponikovica, 01.vi.1997, Obedska bara, 07.vi.1997, Belgrade-Košutnjak, 26.iv.1998, Belgrade, 06.v.1998, leg. ŽT (SER, MNG); *Schizaphis scirpi* (Passerini): on *Typha latifolia* (2♀♀3♂♂), Petnica, 27.vi.1997, leg. ŽT (SER).

Aphidius uzbekistanicus Luzhetzki, 1960

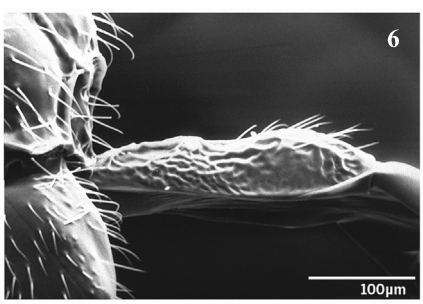
Sitobion avenae (Fabricius): on *Avena sativa* (5♀♀), Obrenovac, 08.vi.1989, Mt Zlatar-Sjenica, 19.vii.1991, leg. OP (SER); *Triticum aestivum* (65♀♀56♂♂), Obrenovac, 10.v.1989, 24.v.1989, 01.vi.1989, 08.vi.1989, 15.vi.1989, 01.vi.1990, 07.vi.1990, 14.vi.1990, Zemun, 23.v.1989, 28.v.1989, 10.vi.1989, 13.vi.1989, Surčin, 25.v.1989, 07.vi.1989, 08.v.1990, 29.v.1990, 05.vi.1990, 15.vi.1990, Kovilovo, 31.v.1989, 09.vi.1989, 16.vi.1989, 24.v.1990, 31.v.1990, 12.vi.1990, 03.vi.1993, Lugavčina, 11.vi.1989, 18.vi.1990, Čačak, 05.vi.1989, Vrnjačka Banja, 28.v.1989, Kuršumlija, 05.vi.1989, Kraljevo, 18.vi.1989, Belgrade, 06.i.1990, Debeli Lug, 09.vi.1990, Belgrade-Radmilovac, 20.v.1994, leg. OP Đurđevo, 10.vi.1997, leg. ŽT (SER); *Hordeum vulgare* (1♂), Zemun, 05.vi.1989, Surčin, 07.vi.1989, 14.vi.1989, leg. OP Kovilovo, 22.v.1997, leg. ŽT (SER); *Secale* sp. (2♂♂), Zemun, 30.v.1989, 13.vi.1989, leg. OP (SER); *Sitobion fragariae* (Walker): on *Dactylis glomerata* (5♀♀5♂♂), Debeli Lug, 09.vi.1990, (SER), Mt Durmitor-Žabljak, 04.viii.1992, leg. OP (MNG); *Schizaphis graminum* (Rondani): on *Triticum aestivum* (4♀♀3♂♂), Surčin, 07.vi.1989, Obrenovac, 15.vi.1989, leg. OP (SER).

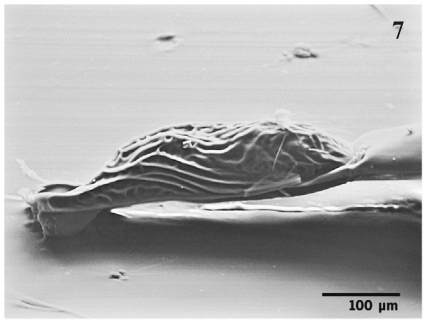
Key to the identification of Aphidius species based on the female

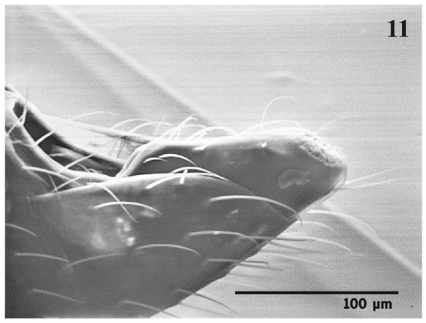
1.	Anterolateral area of petiole rugose (Fig. 6).	2
-	Anterolateral area of petiole costate (Fig. 7) or costulate (Fig. 4).	3
2.	Stigma 3.8-4.3 times as long as wide (Fig. 8); ovipositor sheath clearly concave (Fig. 9); specialized parasitoid of *Microlophium carnosum* (Buckton).	*Aphidius microlophii*
-	Stigma 3.4-3.9 times as long as wide (Fig. 10); ovipositor sheath slightly concave (Fig. 11); wide spectrum of aphid hosts (see above).	*Aphidius ervi*
3.	Anterolateral area of petiole costate (Fig. 7); stigma 1.6-1.8 times as long as distal abscissa of R_1 (Fig. 12) body generally black.	*Aphidius avenae*
-	Anterolateral area of petiole costulate (Fig. 4); length of stigma and R_1 very variable; body color variable.	4
4.	Maxillary palps 3-segmented or 4-segmented; in former case last segment is not clearly divided – sometimes one palp 4- segmented, but other 3- segmented.	5
	Maxillary palps clearly 4-segmented (Fig. 13).	7
5.	Maxillary palps 3-segmented; antennae 14-15-segmented; flagellomere 1, 2.6-3.1 times as long as median width (Fig. 14).	6
-	Maxillary palps 3-segmented or 4-segmented; in former case last segment is not clearly divided – sometimes one palp 4-segmented, but other 3-segmented; antennae (15)16-17-segmented; flagellomere 1, 3.0-3.6 times as long as median width (Fig. 15).	*Aphidius tanacetarius*
6	Stigma 3.2-3.8 times as long as wide (Fig. 16); Rs vein equal or subequal to stigma length (stigma length/ Rs vein length = 1.0-1.2.	*Aphidius matricariae*
-	Stigma 3.0 times as long as wide (Fig. 17); Rs vein short (stigma length/ Rs vein length = 2.2).	*Aphidius artemisicola*
7.	Labial palps 2-segmented or 3- segmented; in former case last segment is not clearly divided – sometimes one palp 2- segmented, but other 3- segmented.	8
-	Labial palps 3-segmented (Fig. 18).	15
8.	Labial palps 2-segmented.	9
-	Labial palps 2-segmented or 3- segmented; in both case last segment is not clearly divided – sometimes one palp 2- segmented, but other 3- segmented.	12
9.	Antennae (15)16-17-segmented; body prevalently yellow.	*Aphidius absinthii*
-	Antennae 14-15-segmented; body variably colored.	10
10.	Flagellomere 1, 3.1-3.5 times as long as median width (Fig. 19); dorsal carina on petiole moderately prominent (Fig. 20).	*Aphidius ribis*
-	Flagellomere 1, 2.6-3.0 times as long as median width; dorsal carina on petiole prominent (Fig. 21).	11
11.	Antennae clearly thickened at apex (Fig. 22); flagellomere 1, yellow at base.	*Aphidius eglanteriae*
-	Antennae not thickened at apex (Fig. 23); flagellomere 1, yellowish.	*Aphidius hortensis*
12.	Antennae 12-14-segmented; Rs vein short, sometimes only half as long as stigma.	13
-	Antennae 15-16-segmented; Rs vein equal or little shorter than stigma length.	14
13.	Petiolus, about 2.4-2.6 times as long as wide at spiracle level (Fig. 24); tentorial index 0.39-0.49.	*Aphidius salicis*

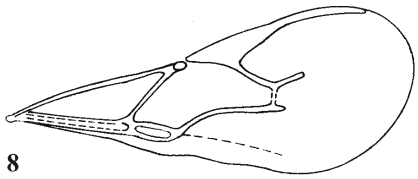
Key to the identification of Aphidius species based on the female. Continued.

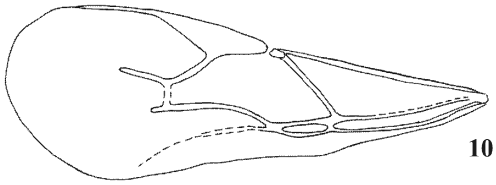
-	Petiolus, about 2.6-3.0 times as long as wide at spiracle level (Fig. 25); tentorial index 0.50-0.63.	*Aphidius aquilus*
14.	Flagellomere 1, 2.5-3.0 times as long as median width (Fig. 26); petiolus, 3.0-3.5 times as long as wide at spiracle level (Fig. 27); stigma, 3.5-4.0 times as long as wide(Fig. 28).	*Aphidius hieraciorum*
-	Flagellomere 1, 3.0-3.5 times as long as median width (Fig. 29); petiolus, 2.5-3.0 times as long as wide at spiracle level (Fig. 30); stigma, 3.0-3.5 times as long as wide (Fig. 31).	*Aphidius sonchi*
15.	Antennae 20-21-segmented.	16
-	Antennae 14-19-segmented.	17
16.	Number of costulae on anterolateral area of petiole 6-9; ratio of stigma length and length of Rs vein 1.6-2.0 (Fig. 32).	*Aphidius eadyi*
-	Number of costulae on anterolateral area of petiolus 4-5; ratio of stigma length and length of Rs vein 1.3-1.5 (Fig. 33).	*Aphidius phalangomyzi*
17.	Antennae 14-15-segmented (Fig. 34); stigma 4.5-4.7 times as long as wide (Fig. 35).	*Aphidius linosiphonis*
-	Antennae 16-19-segmented; stigma less than 4.5 times as long as wide (Fig. 36).	18
18.	Number of longitudinal placodes on flagellomere 1, 3-6 (Fig. 37); flagellomere 1, 2.3-2.6 times as long as median width (Fig. 37).	*Aphidius rosae*
-	Number of longitudinal placodes on flagellomere 1, 0-3; flagellomere 1, more than 2.6 times as long as median width.	19
19.	Rs vein two or more times shorter than stigma (Fig. 38).	*Aphidius montenegrinus*
-	Rs vein equal to stigma or less than two times shorter than stigma.	20
20.	Petiole 2.5-3.0 times as long as wide at spiracle level.	21
-	Petiole more than 3.0 times as long as wide at spiracles level.	22
21.	Stigma 3.0-3.5 times as long as wide (Fig. 39).	*Aphidius funebris*
-	Stigma 3.7-4.2 times as long as wide (Fig. 3).	*Aphidius sussi*
22.	Rs vein length equal or subequal to stigma length (stigma length/ Rs vein length 0.93-1.15).	23
-	Rs vein clearly shorter than stigma length (stigma length/ Rs vein length 1.20-1.70).	24
23.	Flagellomere 1, 3.4-3.9 times as long as median width (Fig. 40).	*Aphidius urticae*
-	Flagellomere 1, 2.9-3.2 times as long as median width (Fig. 41).	*Aphidius galii*
24.	Number of longitudinal placodes on flagellomere 1, 1-3 (Fig. 42).	*Aphidius uzbekistanicus*
-	Flagellomere 1 without longitudinal placodes.	25
25.	Stigma 3.2-3.5 times as long as wide (Fig. 43); number of longitudinal placodes on flagellomere 2, 3-5 (Fig. 44).	*Aphidius cf. pelargonii*
-	Stigma 3.8-4.5 times as long as wide (Fig. 45); number of longitudinal placodes on flagellomere 2, 1-3 (Fig. 46).	*Aphidius rhopalosiphi*



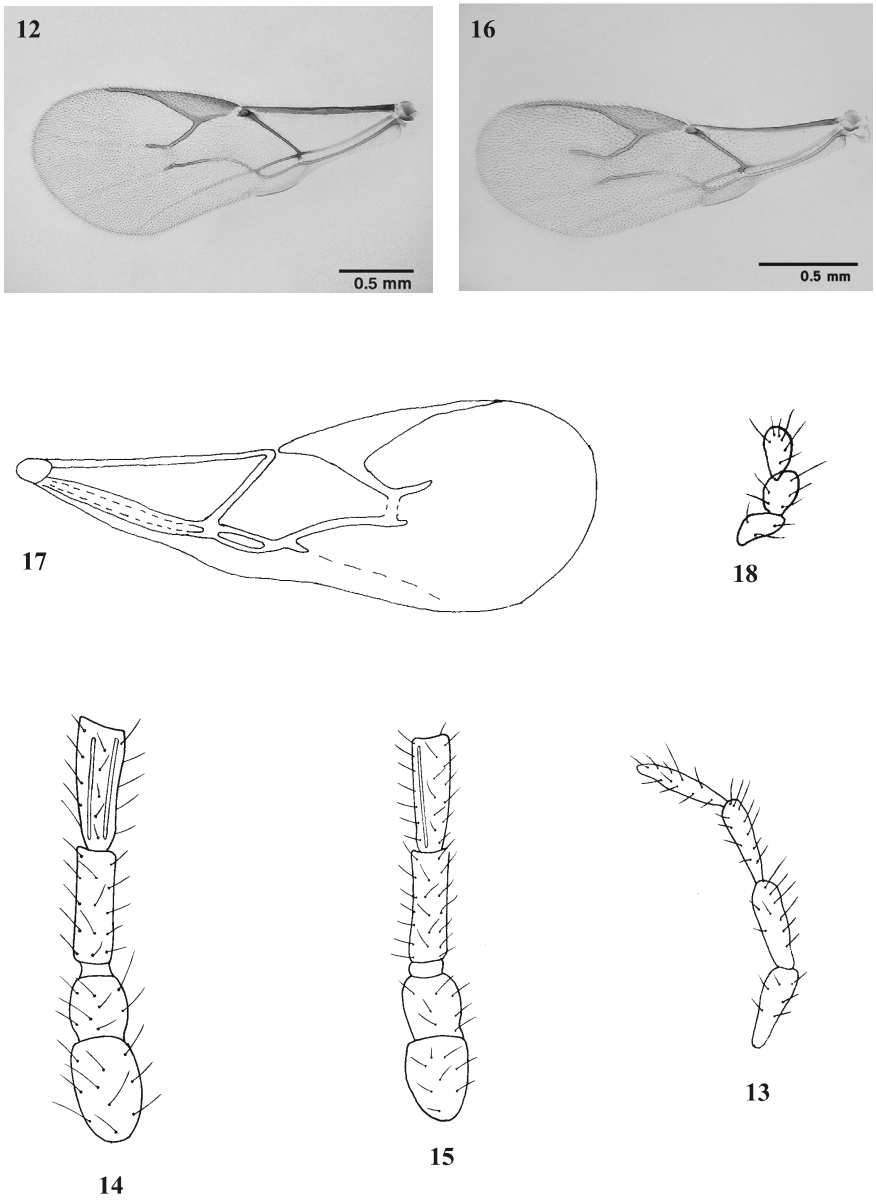




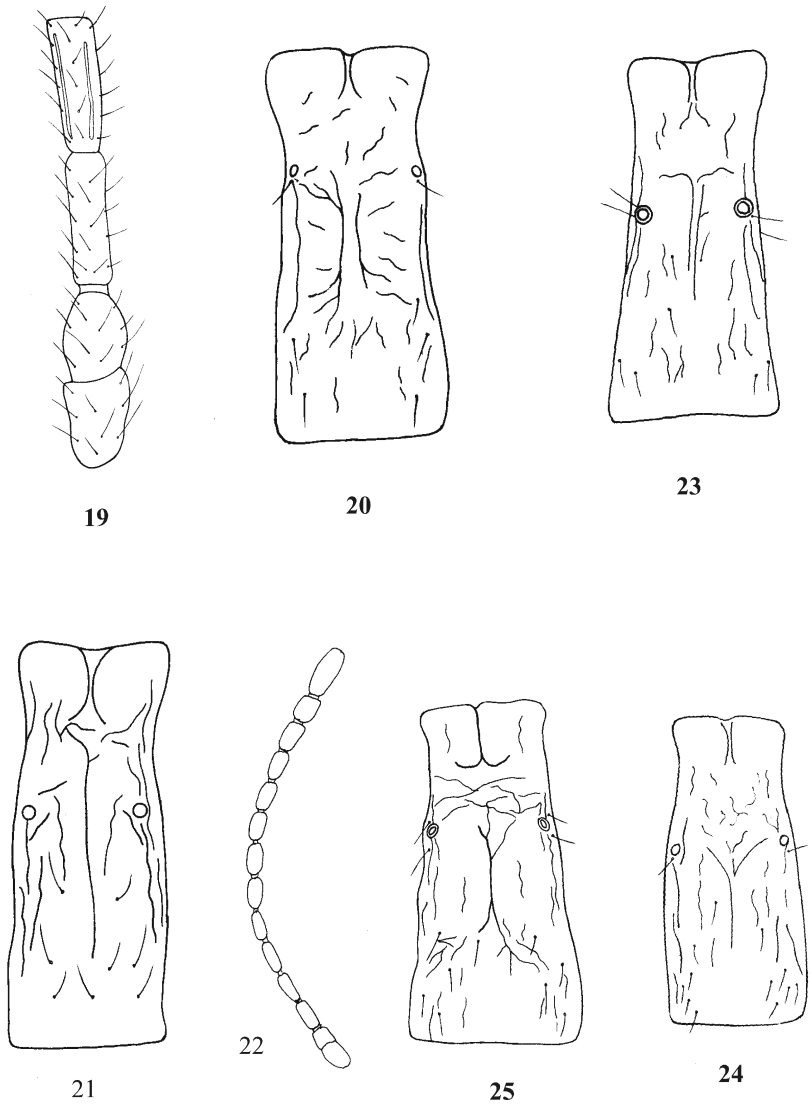




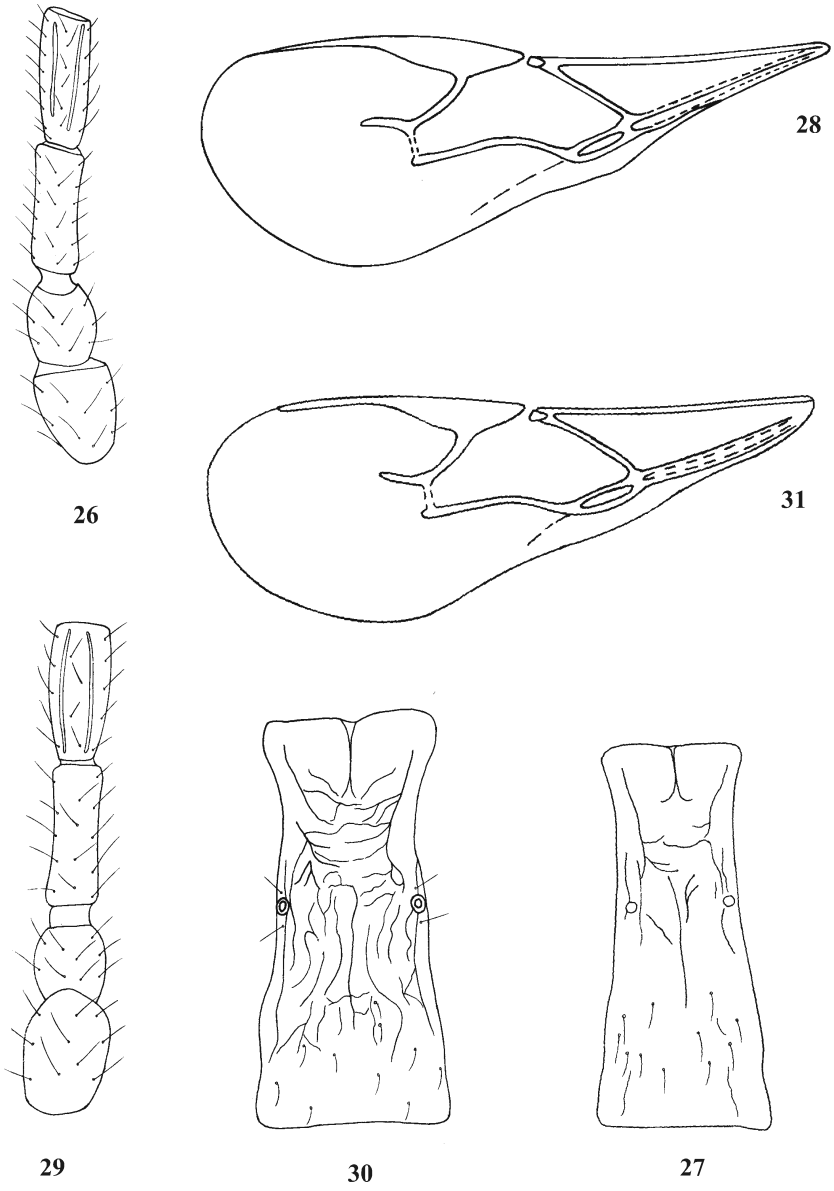
Figs. 6-11. 6. *Aphidius ervi*, petiolus, anterolateral area. 7. *Aphidius avenae*, petiolus, anterolateral area. 8. *Aphidius microlophii*, forewing. 9. *Aphidius microlophii*, ovipositor sheath, lateral aspect. 10. *Aphidius ervi*, forewing. 11. *Aphidius ervi*, ovipositor sheath, lateral aspect.



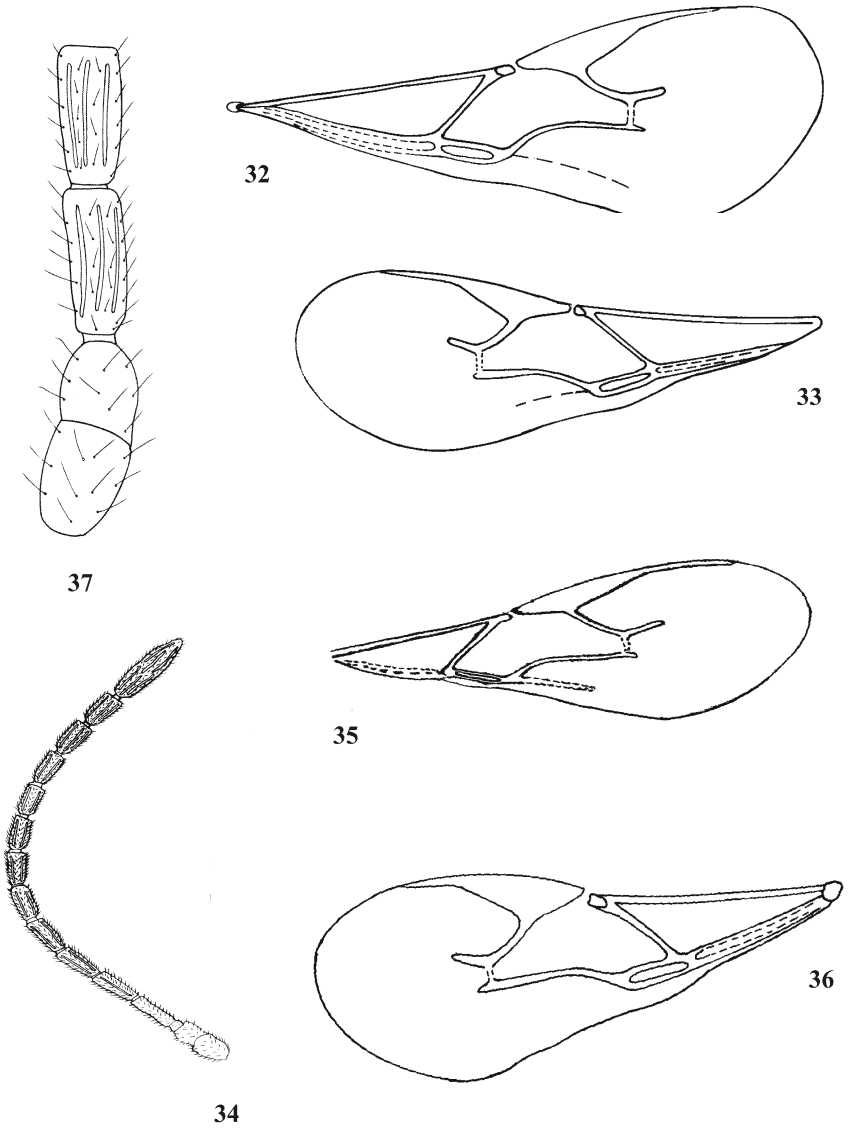
Figs. 12-18. 12. *Aphidius avenae*, forewing. 13. *Aphidius linosiphonis*, maxillary palp. 14. *Aphidius matricariae*, basal part of antenna. 15. *Aphidius tanacetarius*, basal part of antenna. 16. *Aphidius matricariae*, forewing. 17. *Aphidius artemisicola*, forewing. 18. *Aphidius linosiphonis*, labial palp.



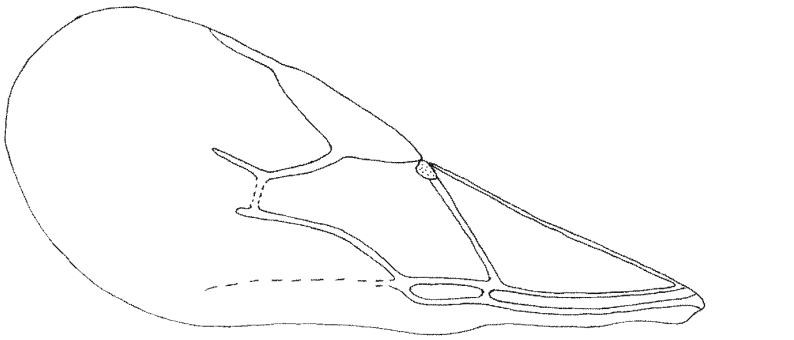
Figs. 19-25. 19. *Aphidius ribis*, basal part of antenna. 20. *Aphidius ribis*, petiolus, dorsal aspect. 21. *Aphidius eglanteriae*, petiolus, dorsal aspect. 22. *Aphidius eglanteriae*, antenna. 23. *Aphidius hortensis*, petiolus, dorsal aspect. 24. *Aphidius salicis*, petiolus, dorsal aspect. 25. *Aphidius aquilus*, petiolus, dorsal aspect.



Figs. 26-31. 26. *Aphidius hieraciorum*, basal part of antenna. 27. *Aphidius hieraciorum*, petiolus, dorsal aspect. 28. *Aphidius hieraciorum*, forewing. 29. *Aphidius sonchi*, basal part of antenna. 30. *Aphidius sonchi*, petiolus, dorsal aspect. 31. *Aphidius sonchi*, forewing.



Figs. 32-37. 32. *Aphidius eadyi*, forewing. 33. *Aphidius phalangomyzi*, forewing. 34. *Aphidius linosiphonis*, antenna. 35. *Aphidius linosiphonis*, forewing. 36. *Aphidius rosae*, forewing. 37. *Aphidius rosae*, basal part of antenna.



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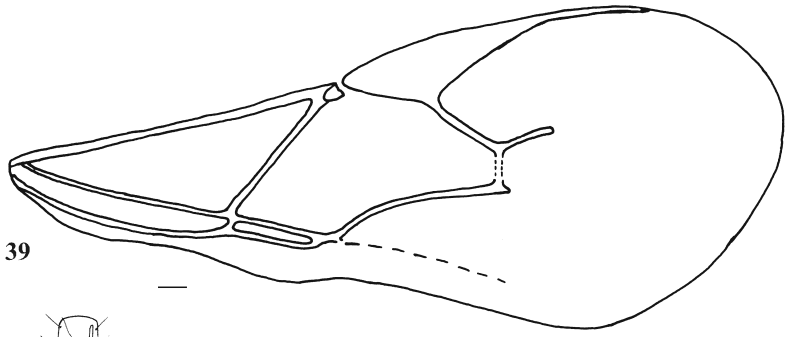

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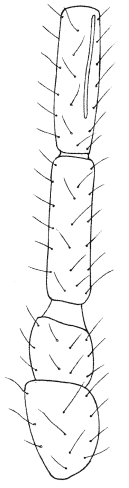

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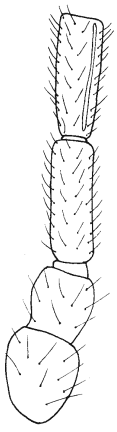

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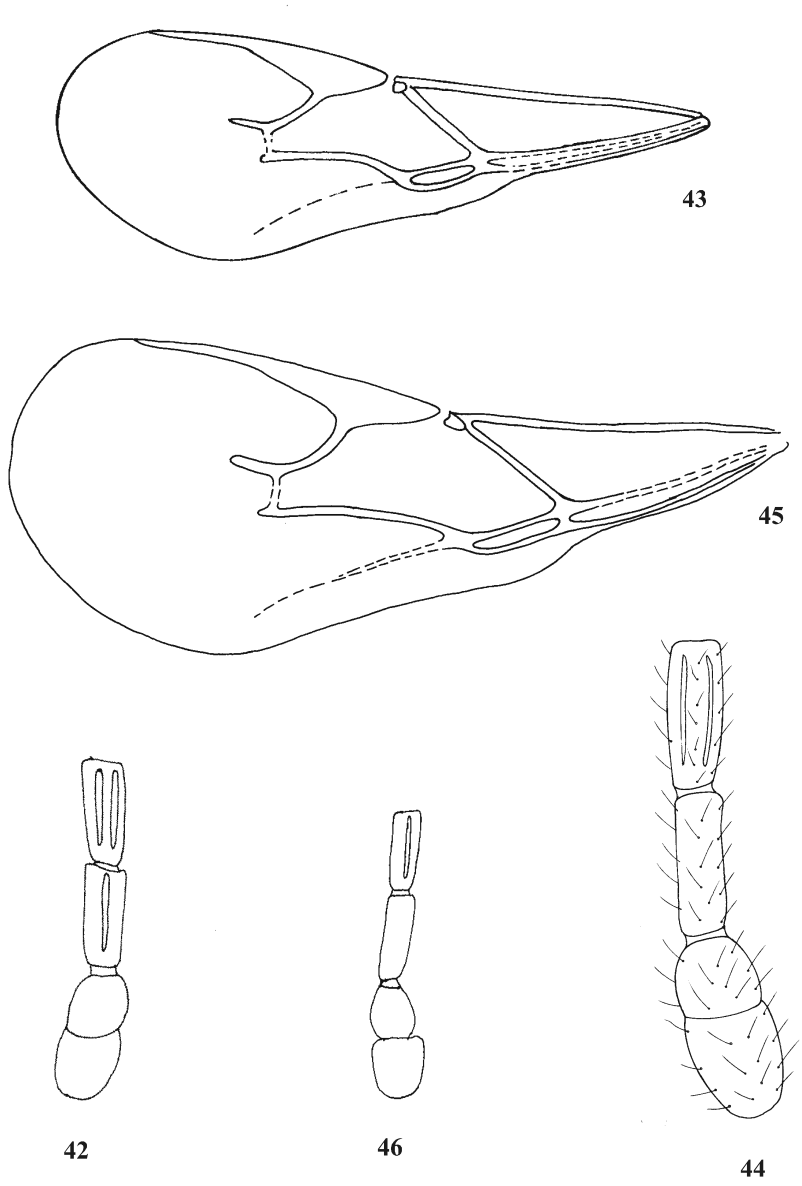
Figs. 38-41. 38. *Aphidius montenegrinus*, forewing. 39. *Aphidius funebris*, forewing. 40. *Aphidius urticae*, basal part of antenna. 41. *Aphidius galii*, basal part of antenna.



Figs. 42-46. 42. *Aphidius uzbekistanicus*, basal part of antenna. 43. *Aphidius* cf. *pelargonii*, forewing. 44. *Aphidius* cf. *pelargonii*, basal part of antenna. 45. *Aphidius rhopalosiphi*, forewing. 46. *Aphidius rhopalosiphi*, basal part of antenna.

Aphid Parasitoid – Aphid Host List

Acyrthosiphon daphnidis	*Aphidius matricariae*
Aphidius urticae	*Cavariella aegopodii*
Aphidius montenegrinus	*Aphidius salicis*
Acyrthosiphon pisum	*Cavariella spp.*
Aphidius avenae	*Aphidius salicis*
Aphidius eadyi	*Chaetosiphon chaetosiphon*
Aphidius ervi	*Aphidius eglanteriae*
Aphidius urticae	*Chaetosiphon sp.*
Acyrthosiphon malvae	*Aphidius eglanteriae*
Aphidius avenae	*Cryptomyzus ribis*
Aphidius cf. pelargonii	*Aphidius ribis*
Acyrthosiphon sp.	*Delphiniobium junackianum*
Aphidius avenae	*Aphidius sussi*
Amphorophora ampullata	*Diuraphis noxia*
Aphidius urticae	*Aphidius ervi*
Amphorophora sp.	*Euceraphis punctipennis*
Aphidius urticae	*Aphidius aquilus*
Aphis intybi	*Hyperomyzus lactucae*
Aphidius matricariae	*Aphidius sonchi*
Aphis sp.	*Hyperomyzus sp.*
Aphidius matricariae	*Aphidius sonchi*
Aulacorthum solani	*Linosiphon sp.*
Aphidius matricariae	*Aphidius galii*
Aphidius urticae	*Aphidius linosiphonis*
Brachycaudus helichrysi	*Liosomaphis berberidis*
Aphidius matricariae	*Aphidius hortensis*
Callaphis flava	*Longicaudus trirhodus*
Aphidius aquilus	*Aphidius eglanteriae*
Capitophorus carduinus	*Macrosiphoniella artemisiae*
Aphidius matricariae	*Aphidius absinthii*
Capitophorus hippophaes	*Macrosiphoniella oblonga*
Aphidius matricariae	*Aphidius phalangomyzi*
Capitophorus spp.	*Macrosiphoniella sp.*

List - Continued.

Aphidius absinthii
Aphidius artemisicola
Macrosiphum cholodkovskyi
Aphidius ervi
Macrosiphum daphnidis
Aphidius urticae
Macrosiphum euphorbiae
Aphidius urticae
Aphidius ervi
Macrosiphum funestum
Aphidius urticae
Macrosiphum oredonense
Aphidius urticae
Macrosiphum prenanthidis
Aphidius urticae
Macrosiphum rosae
Aphidius rosae
Macrosiphum sp.
Aphidius avenae
Aphidius rosae
Aphidius urticae
Metopolophium dirhodum
Aphidius ervi
Aphidius rhopalosiphi
Metopeurum fuscoviride
Aphidius tanacetarius
Microlophium carnosum
Aphidius microlophii
Aphidius urticae
Myzus cerasi
Aphidius matricariae
Myzus cymbalariae
Aphidius matricariae
Myzus langei
Aphidius matricariae
Myzus lythri
Aphidius matricariae
Myzus persicae
Aphidius avenae
Aphidius matricariae
Myzus sp.
Aphidius matricariae
Nasonovia spp.
Aphidius hieraciorum
Ovatus mentharius
Aphidius matricariae
Phorodon humuli
Aphidius matricariae
Rhopalosiphum nymphaeae
Aphidius matricariae
Rhopalosiphum padi
Aphidius ervi
Aphidius rhopalosiphi
Schizaphis graminum
Aphidius ervi
Aphidius uzbekistanicus
Schizaphis scirpi
Aphidius urticae
Sitobion avenae
Aphidius avenae
Aphidius ervi
Aphidius rhopalosiphi
Aphidius uzbekistanicus
Sitobion fragariae

List - Continued.

Aphidius avenae	*Aphidius funebris*
Aphidius rhopalosiphi	*Uroleucon murale*
Aphidius uzbekistanicus	*Aphidius funebris*
Uroleucon cichorii	*Uroleucon solidaginis*
Aphidius funebris	*Aphidius funebris*
Uroleucon cichorii grossum	*Uroleucon sonchi*
Aphidius funebris	*Aphidius funebris*
Uroleucon doronici	*Uroleucon spp.*
Aphidius funebris	*Aphidius funebris*
Uroleucon jaceae	

Table 1. Number of maxillary and labial palps in studied *Aphidius* species in Serbia and Montenegro.

Species	Number of maxillary palps	Number of labial palps
A. absinthii	4	2
A. artemisicola	3	2
A. aquilus	4	2-3
A. avenae	4	3
A. eadyi	4	3
A. eglanteriae	4	2
A. ervi	4	3
A. funebris	4	3
A. galii	4	3
A. hieraciorum	4	2-3
A. hortensis	4	2
A. linosiphonis	4	3
A. matricariae	3	2
A. microlophii	4	3
A. montenegrinus	4	3
A. cf. pelargonii	4	3
A. phalangomyzi	4	3
A. rhopalosiphi	4	3
A. ribis	4	2
A. rosae	4	3
A. salicis	4	2-3
A. sonchi	4	2-3
A. sussi	4	3
A. tanacetarius	3-4	2
A. urticae	4	3
A. uzbekistanicus	4	3

DISCUSSION

The present paper lists 26 *Aphidius* species from 162 tritrophic associations in Serbia and Montenegro. *Aphidius* species were reared from over 64 aphid hosts. In addition to this, a key for the identification of species is given. Apart from the traditionally used characters (wing venation, sculpturation of the anterolateral area of the petiolus, antennal segments, shape and setation of the ovipositor sheath, tentorial index), we also used the number of maxillary and labial palps as an important character, one which is very commonly overlooked in descriptions or keys for *Aphidius* species (Tab. 1). Furthermore, the number of longitudinal placodes on flagellomeres 1 and 2 was included in the key as a useful character.

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ВРСТЕ РОДА *APHIDIUS* NEES (HYMENOPTERA, BRACONIDAE, APHIDIINAE) У СРБИЈИ И ЦРНОЈ ГОРИ: ТРИТРОФИЧКЕ ЗАЈЕДНИЦЕ И КЉУЧ

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У раду је дат преглед 26 врста рода *Aphidius* са 162 различите трофичке заједнице у Србији и Црној Гори добијене гајењем преко 64 афидна домаћина. Дат је и оригинални кључ за идентификацију врста рода *Aphidius*.

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