

GALL MIDGES (DIPTERA: CECIDOMYIIDAE) OF SERBIA

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The present gall midge fauna of Serbia includes 283 species of which 98 are new records for the fauna of Serbia. The majority (59%) are European, 23% are Euro-Siberian, 12% sub-Mediterranean and Mediterranean and 17% Holarctic species. *Contarinia coronillae*, *C. istriana*, causing galls on *Coronilla emerus*, and nine species associated with *Quercus cerris*, viz. *Contarinia quercicola*, *C. subulifex*, *Dasineura tubularis*, *Dryomyia circinans*, *Janetia cerris*, *J. homocera*, *J. nervicola*, *J. pustularis* and *J. szepligetii* are true Mediterranean species. *Oligotrophus szepligetii* causing galls on *Acer tataricum* is a Pannonian species; *Kochiomyia kochiae* causing galls on *Kochia prostrata* is a Pontic-Pannonian species; *Neomikiella lychnidis* causing galls on *Melandrium album* is a Pannonian and planare species; *Zeuxidiplosis giardi* causing galls on *Hypericum perforatum* is a European species with disjunct distribution. Eleven species are pests of cultivated plants, viz. *Mayetiola destructor*, *Haplodiplosis marginata* and *Contarinia tritici* on cereal crops; *Asphondylia miki*, *Dasineura medicaginis* and *Contarinia medicaginis* on fodder crops (lucerne); on fruit crops: *Lasioptera rubi* (rasberry), *Dasineura tetensi* (blackcurrant), *Contarinia pyrivora* and *Dasineura pyri* (pear) and *Putoniella pruni* on plum. About 30 species may be considered to be potential pests of agriculture and forestry. Four species are beneficial insects: *Aphidoletes aphidimyza* is used for biological control of aphids in Serbia and *Zeuxidiplosis giardi*, *Cystiphora sonchi* and *Rhopalomyia tripleurospermi* are used for biological control of weeds in other parts of the world.

KEY WORDS: Diptera, Cecidomyiidae, Gall Midges, Fauna, Zoogeography, Economic importance, Check-list.

INTRODUCTION

Check-lists and articles summarizing faunal data about Diptera, scattered in many journals, are very important: they show the level of knowledge and area

basis for further advancement of dipterological studies. In the last decade of the 20th century there appeared six such lists including dipteran faunas covering a large area of Europe: Poland (RAZOWSKI, 1991), Italy (MINELLI *et al.*, 1995), Czech and Slovak Republics (CHVÁLA, 1997), British Isles (CHANDLER, 1998), Switzerland (MERZ *et al.*, 1998) and Germany (SCHUMANN *et al.*, 1999). Several lists devoted to the dipteran faunas of other areas of Europe are in preparation (Denmark, Spain, Portugal and Andorra).

In 1996 we published an article in which we summarized the gall midge fauna of Slovenia (SIMOVA-TOŠIĆ *et al.*, 1996). In the present article we summarize results of investigations of gall midges obtained in Serbia during the 20th century. It is the third contribution to the knowledge of the gall midge fauna of the Balkan peninsula, gall midge faunas of which were investigated several years earlier: of Bulgaria (SKUHRAVÁ *et al.*, 1991, 1992) and of Greece (SKUHRAVÁ & SKUHRAVÝ, 1997).

HISTORY

TROTTER (1903) was the first who collected gall midge galls in the territory of Serbia (in the environs of Beograd). VOUKASSOVITCH (1932) described the gall midge species *Isobremia kiefferi*, larvae of which prey on aphids *Megalosiphum sonchi* L. from the type-locality Beograd. This species was later synonymized with *Aphidoletes aphidimyza* (Rondani, 1847).

BAUDYŠ (1928) published in his paper the finding of four gall midge species galls of which were collected by M. Gradojević in eastern Serbia (*Dasineura crataegi*, *D. ranunculi*, *Dryomyia circinans* and *Janetia cerris*). In the paper of SKUHRAVÁ & SKUHRAVÝ (1964) 18 gall midge species are given which were collected at two localities in the territory of Serbia in the course of a Symposium about the insect fauna occurring in fields, which was held in Zagreb in 1963. JANEŽIČ (1972) listed 22 gall midge species, JANEŽIČ (1982) collected 57 species at different localities in Serbia. PAL (1983, 1983a) investigated the gall midge fauna of Vojvodina where he found 29 and 21 species, respectively.

SIMOVA-TOŠIĆ (1965) started her investigations of gall midges in Serbia in 1964. In the course of 35 years to the end of 2000 she published 27 articles, several with collaborators (SIMOVA-TOŠIĆ 1965-1999; see in References). Some of these articles are devoted to faunistics, some to gall midge species which damage agricultural plants or cause damage in forests.

In the middle of the 20th century the attention of applied entomologists was first attracted to the gall midge species damaging cereal crops and causing loss of

yield of lucerne (MARTINOVIĆ, BJEGOVIĆ, 1949; BJEGOVIĆ 1957A, 1957B; TANASIJEVIĆ, 1953; JOVANIĆ, 1954).

STUDY AREA

Serbia occupies a territory of about 88,360 km² in the middle part of the Balkan Peninsula. It consists of two provinces (Vojvodina at the north, and Kosovo at the southwest). Between them is Serbia s.str. Serbia occupying an area extending 46° - 42° of North Latitude to 19° - 23° Eastern Longitude. The lowest geographical point is in the eastern part of Serbia at the level of Timok river mouth in Danub (28 m.a.sl.) at the boundary with Bulgaria. Serbia is mainly mountainous country. The highest point is Midzor 2169 m. a. sl. at Stara Planina mountain and Djaravica 2656 m.a.sl. at Prokletia mountain at the Albanian border. Northern part of Serbia is formed by lowlands with the promontory of the Pannonian Basin and lowlands along the rivers Danube, Sava, Morava and Timok. Eastern, southern and western parts are covered with highlands changing to many mountain complexes with limestone phenomena and with glens and canyons e.g. well known Drina-Canyon at the border with Srpska Republic (Bosnia and Herzegovina). The climate in Serbia is mild continental with a wide range of variation from continental to mediterranean type.

From the biogeographical point of view, the most northern part of Serbia belongs to the Pannonian Province and the remaining part to the Province of Balkan Highlands (UDVARDY 1975). The northern part is covered with steppe and plant associations which change with altitude. Mountains are covered with broadleaved deciduous, mixed and coniferous forest. The territory of Serbia may be separated into the following altitudinal zones: planare zone (100 m. to 200 m. a.sl.), colline zone (200 m. to 500 m. a. sl.), submontane zone (from 500m. to 800m.a.sl.), montane zone (from 800-1500), subalpine zone (from 1500- 1800m. a.sl.), subnival zone over 2100m.a.s. Nival zone does not occur in the Serbian mountains.

MATERIAL AND METHODS

We summarized data about the occurrence of gall midges gathered by researchers who collected galls in Serbia and Vojvodina during the period of 1903-1999, as well as data about the economic importance which stayed scattered in 52 papers. For each gall midge species listed below, there are added new records obtained by the first author in the course of faunal investigations in Serbia during the period of 1965-2000 at 278 out of 319 localities (Fig. 1).

Gall midge galls were identified using keys for determination of BUHR (1994-1995) and HOUARD (1908-1909), larvae according to MÖHN (1955), adults accord-

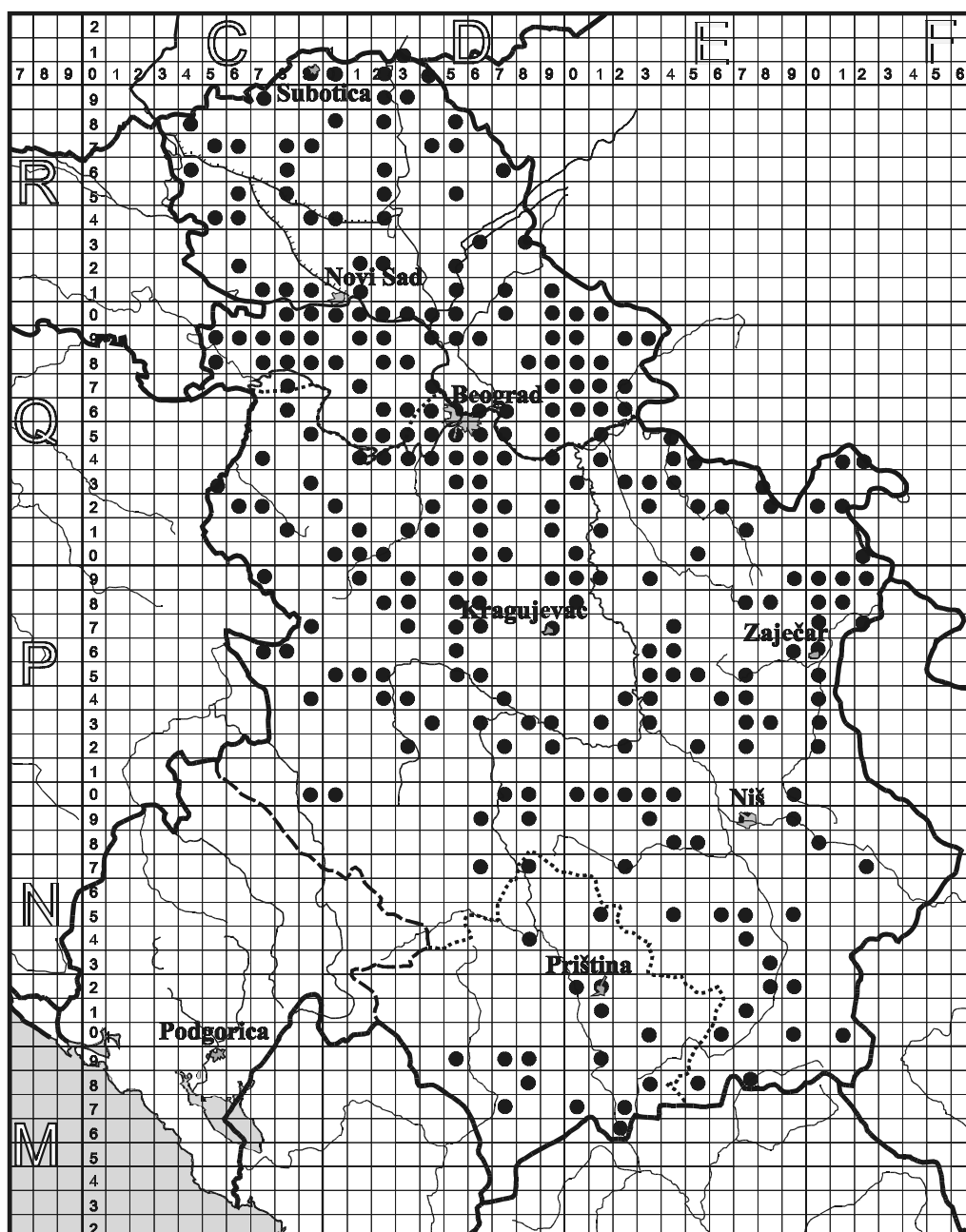


Fig. 1. UTM Map of Serbia with areas where gall midge galls were collected till now.

ing to SKUHRÁVÁ (1997). We analyzed the gall midge fauna of Serbia using zoogeographical methods of SKUHRÁVÁ (1987, 1994, 1997). The economic importance has been evaluated according to DARVAS *et al.* (2000), SKUHRÁVÁ & ROQUES (2000) and SKUHRÁVÝ & SKUHRÁVÁ (1996). Nomenclature of gall midges is according to SKUHRÁVÁ (1986, 1989, 1997), nomenclature of host plants according to TUTIN *et al.* (1964-1980) and EHRENDORFER (1973).

RESULTS

The present gall midge fauna of Serbia includes 283 species; 98 of which were found for the first time and are, therefore, new records for Serbia. In addition, galls of 24 species were discovered which are presently undescribed. In several cases we were successful in rearing adults and descriptions will be published in separate paper.

The majority of Serbian gall midges belong to phytophagous species (96%), only a small part belongs to zoophagous (4%) and mycophagous (2%) species. Larvae of phytophagous gall midges cause galls on various host plant species, i.e. on trees, shrubs, herbaceous plants, or develop on host plants without making galls (*Clinodiplosis cilicrus*), or live as inquiline in galls of other gall midges (*Clinodiplosis invocata*, *C. socialis*, *Dasineura prunicola*, *Macrolabis luceti*, *M. pavidus*). Larvae of zoophagous gall midges attack mites (*Acarolestes tetranychus*, *Arthrocnodeax coryligallarum*, *A. mali*, *A. peregrina*, *A. vitis*), aphids (*Aphidoletes aphidimyza*, *A. urticae*), or other gall midges (*Lestodiplosis affinis*, *L. callida*, *L. plicatricis*). Larvae of mycophagous species feed on fungus developing on various host plants (*Dichodiplosis langeni*, *Mycodiplosis coniophaga*, *M. melampso-rae*, *M. plasmoparae*, *M. pucciniae*).

From the taxonomical point of view, the present known gall midge fauna of Serbia is formed predominantly by members of the subfamily Cecidomyiinae larvae of which are mainly gall-makers whereas the members of two other subfamilies, Lestremiinae and Porricondyliinae, larvae of which are saprophagous and mycophagous, remain unknown till present.

In general, the level of knowledge of the gall midge fauna of Serbia is good. In comparison with gall midge faunas of adjacent countries, the gall midge fauna of Serbia, including 283 species, is richer than that of Bulgaria (240 species, SKUHRÁVÁ *et al.*, 1991) but a little poorer than faunas of Rumania (310 species, SKUHRÁVÁ *et al.*, 1972), Hungary (332 species, SKUHRÁVÁ & SKUHRÁVÝ, 1999) and Italy (324 species, SKUHRÁVÁ & SKUHRÁVÝ, 1994).

LIST OF GALL MIDGE SPECIES

For each species the following data are given: host plant (or animal) species, plant family, references (names of authors are abbreviated), unpublished localities where species are found, distribution in Palaearctic region; for some species additional data are given about their economic importance (pest, or potential pest) and about their conspicuous occurrence. An asterisk (*) before the species name indicates a new record for the fauna of Serbia.

Abbreviations of authors: A. – Avramović, G.; B. – Bjegović, P.; Ba. – Baudyš, E.; D. – Dobrivojević, K.; H. – Hadžistević, D.; I. – Ilić, B.; J. – Janežić, F.; Je. – Jeremić, M.; Jo. – Jovanić, M.; K. – Komnenović, R.; Ko. – Kosovac, B.; M. – Martinović, M.; Ma. – Marković, Č.; Mi. – Mihajlović, Lj. R. – Ražnatović, J.; P. – Pal, B.; Pe. – Petrović, R.; S. – Simova – Tošić, D.; Sk. – Skuhrová, M.; Sk. – Skuhrový, V.; Sm. – Smiljanić, D.; St. – Stojanović, A.; T. – Trotter, A.; Ta. – Tanasijević, N.; To. – Tomić, D.; V. – Voukassovitch, P.; Va. – Vasić, K.; Vi. – Vićentijević, D.; Vu. – Vuković, M.; Ž. – Živojinović,

Acaroletes tetranych (Kieffer, 1908)

Host: Zoophagous on *Tetranychus urticae* C. L. Koch (Tetranychidae).

Reference: S.: 1995.

Localities: Arandjelovac; Beograd; Čačak.

Distribution: European.

* ***Acodiplosis inulae*** (Loew, 1847)

Host: *Inula britannica* L., *I. ensifolia* L. (Asteraceae).

Localities: Ašanja; Koračka banja; Vrnjačka banja; Vladimirci.

Distribution: European.

* ***Ametrodiplosis auripes*** (F. Löw, 1888)

Host: *Galium mollugo* L. (Rubiaceae).

Locality: Goč.

Distribution: European.

* ***Ametrodiplosis thalictricola*** (Rübsaamen, 1895)

Host: *Thalictrum minus* L. (Ranunculaceae).

Localities: Fruška Gora: Stražilovo; Mačva: Radenković.

Distribution: Euro-Siberian.

* ***Ametrodiplosis urticae*** Kovalev, 1972

Host: Inquiline in galls of *Dasineura urticae* (Perris) on *Urtica dioica* L. (Urticaceae).

Localities: Novi Beograd; Zemun.

Distribution: European.

Aphidoletes aphidimyza (Rondani, 1847)

Host: Zoophagous on more than 30 aphids species on different plants.

References: S. Vu.: 1980; Sk. Sk.: 1964; V.: 1924, 1932; Vu.: 1990, 1999.

Distribution: Holarctic. Widespread in Serbia and very common.

Aphidoletes urticae (Kieffer, 1895)

Host: Zoophagous on *Aphis urticata* Gmel. (Aphididae) on *Urtica dioica* L. (Urticaceae).

References: S. Vu.: 1980; V. 1924.

Distribution: Holarctic.

Apiomyia bergenstammi (Wachtl, 1882)

Host: *Pyrus communis* L. (Rosaceae).

Reference: P.: 1983.

Distribution: sub-Mediterranean. Pest.

Arnoldiola libera (Kieffer, 1909)

Host: *Quercus robur* L., *Q. petraea* (Mattusch.) Liebl (Fagaceae).

Reference: Sk. Sk.: 1964.

Distribution: European.

* ***Arthrocnodax coryligallarum*** (Targioni - Tozzetti, 1886)

Host: Zoophagous on *Phytoptus avellanae* Nal. (Phytoptidae) on *Corylus avellana* L. (Corylaceae).

Localities: Beograd; Zemun.

Distribution: European.

* ***Arthrocnodax mali*** (Kieffer in Wissmann, 1926)

Host: Zoophagous on *Aculus schlechtendali* (Nal.) (Eriophyidae) on *Malus domestica* Borkh. (Rosaceae).

Locality: Zlatar.

Distribution: European.

* ***Arthrocnodax peregrina*** (Winnertz, 1853)

Host: Zoophagous on *Eriophyes* sp. (Eriophyidae) on *Prunus domestica* L., *P. spinosa* L. (Rosaceae).

Localities: Gornji Milanovac; Čačak.

Distribution: European.

* ***Arthrocnodax vitis*** Rübsaamen, 1895

Host: Zoophagous on *Eriophyes vitis* Landois (Eriophyidae) on *Vitis vinifera* L. (Vitaceae).

Localities: Fruška gora: Stražilovo; Zrenjanin; Šabac.

Distribution: European.

Aschistonyx carpiniculus Rübsaamen, 1917

Host: *Carpinus betulus* L. (Corylaceae).

Reference: J.: 1982.

Distribution: European.

* ***Asphondylia baudysi*** Vimmer, 1937

Host: *Coronilla varia* L. (Fabaceae).

Localities: Čortanovci; Struganik; Zemun.

Distribution: European.

* ***Asphondylia calaminthae*** Kieffer, 1909

Host: *Calamintha officinalis* Mch. (Lamiaceae).

Localities: Beograd: Košutnjak; Zemun.

Distribution: sub-Mediterranean.

Asphondylia cytisi Frauenfeld, 1873

Host: *Cytisus supinus* (L.) Link. (Fabaceae).

References: P.: 1983; S.: 1976a.; S. K.: 1979; S. Sm. St.: 1992.

Localities: Arandjelovac: Banja; Beograd: Košutnjak; Deliblatska peščara:

Devojački bunar; Goč: Dobre vode; Vršac.

Distribution: Euro-Siberian.

* ***Asphondylia dorycnii*** (Müller, 1870)

Host: *Dorycnium herbaceum* Vill. (Fabaceae).

Localities: Čortanovci; Struganik.

Distribution: sub-Mediterranean.

* ***Asphondylia echii*** Loew, 1850

Host: *Echium vulgare* L. (Boraginaceae).

Locality: Zemun.

Distribution: sub-Mediterranean.

* ***Asphondylia genistae*** (Loew, 1850)

Host: *Genista germanica* L. (Fabaceae).

Locality: Čortanovci.

Distribution: European.

* ***Asphondylia hornigi*** Wachtl, 1880

Host: *Origanum vulgare* L. (Lamiaceae).

Locality: Goč: Dobre vode.

Distribution: European.

Asphondylia massalongoi Rübsaamen, 1893

Host: *Ajuga chamaeipyris* Schreb. (Lamiaceae).

Reference: S. Sm. St.: 1992.

Localities: Čortanovci; Beograd: Braće Jerković.

Distribution: sub-Mediterranean.

Asphondylia melanopus Kieffer, 1890

Host: *Lotus corniculatus* L. (Fabaceae).

References: P.: 1983a; S.: 1969, 1968a.

Distribution: European. Potential pest.

Asphondylia menthae Kieffer, 1902

Host: *Mentha longifolia* (L.) Huds., *Mentha sp.* (Lamiaceae).

Reference: S. Sm. St.: 1992.

Localities: Boljevc: Crni lug; Mačva: Radenković; Vladimirci: Krnule.

Distribution: sub-Mediterranean.

Asphondylia miki Wachtl, 1880

Host: *Medicago sativa* L. (Fabaceae).

References: Jo.: 1954; P.: 1983a; S.: 1965, 1965a; Ta.: 1953.

Distribution: Euro-Siberian - Holarctic. Widespread in Serbia. Pest.

Asphondylia ononidis F. Löw, 1873

Host: *Ononis spinosa* L., *O. arvensis* L. (Fabaceae).

References: P.: 1983a; S. Sm. St.: 1992.
Localities: Beograd: Sremčica, Stepin gaj; Čortanovci; Zemun.
Distribution: sub-Mediterranean.

***Asphondylia pruniperda* Rondani, 1867**

Host: *Prunus domestica* L., *P. spinosa* L., *P. pissardii* Carr. (Rosaceae).
References: J.: 1982; P.: 1983a; S. D.: 1981.
Distribution: European. Potential pest.

* ***Asphondylia scrophulariae* Schiner, 1856**

Host: *Scrophularia nodosa* L. (Scrophulariaceae).
Localities: Goč: Dobro vodo; Rajac.
Distribution: sub-Mediterranean.

* ***Asphondylia serpylli* Kieffer, 1898**

Host: *Thymus serpyllum* L., *Th. glabrescens* Willd. (Lamiaceae).
Localities: Batajnica; Goč: Dobro vodo; Rudnik; Struganik; Zemun.
Distribution: European.

***Asphondylia stachydis* Stelter in Buhr, 1965**

Host: *Stachys annua* L. (Lamiaceae).
References: S. Sm. St.: 1992; S. et al. 1996a.
Localities: Beograd: Vinča; Doljevac; Mačva: Radenković.
Distribution: European.

***Asphondylia verbasci* (Vallot, 1827)**

Host: *Verbascum austriacum* Schott., *V. banaticum* Roch., *V. lychnitis* L., *V. nigrum* L., *V. phlomoides* L., *V. thapsiforme* Schrad. (Scrophulariaceae).
References: J.: 1982, P.: 1983a, S.: 1965, 1965a, 1968a.
Distribution: sub-Mediterranean. Widespread and very common in Serbia.

***Asynapta pectoralis* Winnertz, 1853**

Burrow in branches of *Quercus cerris* L., *Q. farnetto* Ten., *Q. petraea* (Matt.)
Liebl. (Fagaceae) made by xylophagous insects.
Reference: Ma.: 1999.
Distribution: European.

***Atrichosema aceris* Kieffer, 1904**

Host: *Acer campestre* L. (Aceraceae).
Reference: J.: 1982.
Distribution: European.

* ***Bayeriola salicariae* (Kieffer, 1888)**

Host: *Lythrum salicaria* L. (Lythraceae).
Localities: Mačva: Radenković; Ašanja.
Distribution: European.

***Bayeriola thymicola* (Kieffer, 1888)**

Host: *Thymus panonica* Al., *Th. serpyllum* L. (Lamiaceae).
Reference: P.: 1983.
Localities: Divčibare; Struganik; Zemun.
Distribution: European.

***Clinodiplosis cilicrus* (Kieffer, 1889)**

Host: *Cirsium arvense* (L.), *Centaurea scabiosa* L. (Asteraceae), *Papaver somniferum* L. (Papaveraceae), hybrid roses (Rosaceae).

References: S.: 1969, 1968a, 1970; S. Sm. St.: 1992.

Distribution: Euro-Siberian.

* ***Clinodiplosis invocata*** (Winnertz, 1853)

Host: Inquiline in galls of *Dasineura acrophila* (Winnertz) on *Fraxinus excelsior* L. (Oleaceae).

Locality: Smederevo: Lugavčina.

Distribution: European.

* ***Clinodiplosis oleracei*** RÜBSAAMEN, 1917

Host: *Cirsium arvense* L. (Asteraceae).

Localities: Beograd: Radmilovac; Mačva: Radenković; Zemun: Ledine.

Distribution: European.

Clinodiplosis socialis (Winnertz, 1853)

Host: Inquiline in galls of *Lasioptera rubi* (Schrank) on *Rubus* sp. (Rosaceae).

References: S.: 1968a, 1969.

Distribution: European.

Contarinia acerplicans (Kieffer, 1889)

Host: *Acer heldreichii* Orph., *A. pseudoplatanus* L. (Aceraceae).

Reference: S.: 1968.

Distribution: European.

* ***Contarinia acrocecis*** Stelter, 1962

Host: *Galium mollugo* L. (Rubiaceae).

Localities: Beograd: Radmilovac; Debeli lug; Fruška gora: Stražilovo.

Distribution: European.

Contarinia anthobia (F. Löw, 1877)

Host: *Crataegus monogyna* Jacq. and *C. oxyacantha* L. (Rosaceae).

Reference: J.: 1982.

Distribution: European.

Contarinia asperulae Kieffer, 1909

Host: *Asperula cynanchica* L. (Rubiaceae).

Reference: S. Sm. St.: 1992.

Localities: Ljig; Pančevo.

Distribution: European.

* ***Contarinia baeri*** (Prell, 1931)

Host: *Pinus* sp. (Pinaceae).

Localities: Topola; Zlatar.

Distribution: Euro-Siberian. Potential pest.

Contarinia ballotae Kieffer, 1898

Host: *Ballota nigra* L. (Lamiaceae).

References: S.: 1968a, 1969; S. Sm. St.: 1992.

Distribution: European.

Contarinia carpini Kieffer, 1897

Host: *Carpinus betulus* L. (Corylaceae).
References: J.: 1982; S. 1968a.
Localities: Fruška gora; Kosmaj.
Distribution: European.

- * ***Contarinia coronillae*** Janežić, 1978
Host: *Coronilla varia* L. (Fabaceae).
Locality: Gornji Milanovac.
Distribution: Mediterranean.

Contarinia coryli (Kaltenbach, 1859)
Host: *Corylus avellana* L. (Corylaceae).
References: J.: 1982; P.: 1983; S.: 1968, 1968a.
Distribution: Euro-Siberian.

Contarinia cracca Kieffer, 1897
Host: *Vicia cracca* L., *V. sativa* L. (Fabaceae).
Reference: S.: 1968a.
Localities: Rajac; Rudnik; Zrenjanin.
Distribution: Euro-Siberian.

Contarinia helianthemii (Hardy, 1850)
Host: *Helianthemum nummularium* (L.) Run. (Cistaceae).
Reference: S. Sm. St.: 1992.
Localities: Debeli lug; Goč; Dobro vodo; Zaječar.
Distribution: European.

- * ***Contarinia inquilina*** Rübsaamen, 1917
Host: Inquiline in galls of *Kiefferia pericarpiicola* (Bremi) on *Daucus carota* L. (Apiaceae).
Locality: Mačva; Radenković.
Distribution: European.

- * ***Contarinia istriana*** Janežić, 1980
Host: *Coronilla varia* L. (Fabaceae).
Localities: Čortanovci; Zemun.
Distribution: Mediterranean.

- * ***Contarinia jacobaeae*** (Loew, 1850)
Host: *Senecio vulgaris* L. (Asteraceae).
Localities: Vladimirci; Krnule.
Distribution: Euro-Siberian.

- * ***Contarinia lathyri*** Kieffer, 1909
Host: *Lathyrus pratensis* L., *L. venetus* (Mill.) Wohlf. (Fabaceae).
Localities: Djerdap: Boljetin Pecka bara; Zrenjanin: Perleska bara.
Distribution: European.

Contarinia lepidii Kieffer, 1909
Host: *Lepidium draba* L. (Brassicaceae).
Reference: S. Sm. St.: 1992.
Distribution: European.

- * ***Contarinia lonicerae*** Kieffer, 1909

Host: *Lonicera nigra* L. (Caprifoliaceae).
Localities: Vršački breg; Zemun.
Distribution: European.

Contarinia loti (De Geer, 1776)

Host: *Lotus corniculatus* L. (Fabaceae).
References: P.: 1968a, 1983a..
Distribution: European.

* ***Contarinia marchali*** KIEFFER, 1896

Host: *Fraxinus excelsior* L. (Oleaceae).
Localities: Beograd: Topčiderski park; Donji Milanovac; Smederevo:
Lugavčina; Zaječar.
Distribution: European.

Contarinia medicaginis KIEFFER, 1895

Host: *Medicago sativa* L. (Fabaceae).
References: Jo.: 1954; Ko.: 1972; M. B.: 1949; Pe.: 1985, 1988; R.: 1973; S.:
1965, 1965a, 1968a; Sk. Sk.: 1964; Ta.: 1953.
Distribution: Euro-Siberian. Widespread and very common in Serbia. Pest.

* ***Contarinia melanocera*** Kieffer, 1904

Host: *Genista tinctoria* L. (Fabaceae).
Locality: Vršački breg.
Distribution: European.

Contarinia nasturtii (Kieffer, 1888)

Host: *Brassica* spp., *Raphanus* spp., *Armoracia lapathifolia* Gilib.
(Brassicaceae).
References: J.: 1977; P.: 1983; S.: 1965, 1968a; S. Sm. St.: 1992; S. et al:
1986; St.: 1991.
Distribution: European. Potential pest.

Contarinia panici (Plotnikov, 1926)

Host: *Panicum miliaceum* L., *Echinochloa crus-galli* (L.) P. Beauv.
(Poaceae).
Reference: M. B.: 1949..
Distribution: sub-Mediterranean.

* ***Contarinia pastinaceae*** (Rübsaamen, 1891)

Host: *Pastinaca sativa* L. (Apiaceae).
Localities: Mačva: Radenković; Zemun.
Distribution: European.

Contarinia petioli (Kieffer, 1898)

Host: *Populus alba* L., *P. tremula* L. (Salicaceae).
References: J.: 1977; S. Vu.: 1999.
Distribution: Euro-Siberian.

Contarinia pisi (Winnertz, 1854)

Host: *Pisum sativum* L. (Fabaceae).
References: S.: 1965, 1968a.
Localities: Mačva: Radenković; Šid: Ilinci; Zaječar; Zemun.
Distribution: Euro-Siberian. Potential pest.

Contarinia populi (Rübsaamen, 1917)

Host: *Populus alba* L., *P. tremula* L. (Salicaceae).

Reference: S. Vu.: 1999.

Distribution: Euro-Siberian.

Contarinia pyrivora (Riley, 1886)

Host: *Pyrus communis* L. (Rosaceae).

References: S.: 1965, 1965a, 1968a, 1969a, 1978.

Distribution: Holarctic. Pest.

* ***Contarinia quercicola*** (RÜBSAAMEN, 1899)

Host: *Quercus cerris* L. (Fagaceae).

Localities: Beograd: Vinča; Topola: Oplenac; Vlasinsko jezero; Zaječar: Crni vrh.

Distribution: Mediterranean.

Contarinia quercina (RÜBSAAMEN, 1890)

Host: *Quercus robur* L. (Fagaceae).

Reference: J.: 1982.

Distribution: European. Potential pest.

* ***Contarinia rhamni*** (Rübsaamen, 1892)

Host: *Rhamnus frangula* L. (Rhamnaceae).

Locality: Vladimirci: Krnule.

Distribution: European.

* ***Contarinia rumicis*** (Loew, 1850)

Host: *Rumex acetosella* L. (Polygonaceae).

Locality: Kragujevac.

Distribution: Holarctic

* ***Contarinia sambuci*** (Kaltenbach, 1873)

Host: *Sambucus nigra* L., *S. ebulus* L. (Caprifoliaceae).

Localities: Arandjelovac: Banja; Beograd; Beograd: Stepin gaj ; Čačak: Mrčajevci; Rajka: Trešnja; Zemun: Surčin.

Distribution: European.

* ***Contarinia scrophulariae*** Kieffer, 1896

Host: *Scrophularia nodosa* L. (Scrophulariaceae).

Locality: Goč: Dobre vode.

Distribution: European.

Contarinia solani (Rübsaamen, 1891)

Host: *Solanum dulcamara* L. (Solanaceae).

References: S.: 1968a, 1969.

Localities: Novi Beograd: Galovica; Pančevo; Stari Slankamen.

Distribution: European.

Contarinia steini (Karsch, 1881)

Host: *Melandrium album* (Mill) Garcke (Caryophyllaceae).

Reference: Sk. Sk.: 1964.

Locality: Zrenjanin: Batoški rit.

Distribution: Euro-Siberian.

***Contarinia subulifex* Kieffer, 1897**

Host: *Quercus cerris* L. (Fagaceae).

References: P.: 1983; J.: 1977, 1982.

Localities: Lazarevac; Mala Moštanica: Žuto brdo; Topola: Oplenac; Užice; Zaječar: Crni vrh.

Distribution: Mediterranean.

***Contarinia tiliarum* (Kieffer, 1890)**

Host: *Tilia cordata* Mill., *T. platyphyllos* Scop., *T. tomentosa* Mnch. (Tiliaceae).

References: J.: 1982; P.: 1983..

Localities: Beograd; Zemun; Leskovac; Majdanpek; Negotin; Novi Sad; Sombor; Subotica; Topola: Oplenac; Vranje; Zaječar.

Distribution: Euro-Siberian.

*** *Contarinia tragopogonis* Kieffer, 1909**

Host: *Tragopogon dubius* Scop. (Cichoriaceae).

Locality: Stol.

Distribution: European.

***Contarinia tremulae* Kieffer, 1909**

Host: *Populus tremula* L. (Salicaceae).

Reference: S. Vu.: 1999.

Distribution: European.

***Contarinia tritici* (Kirby, 1798)**

Host: *Triticum vulgare* L. (Poaceae).

References: Bj.: 1957a,b; H.: 1955, Je. : 1954, S. Vu.: 1990.

Distribution: Holarctic. Pest.

***Craneiobia corni* (Giraud, 1863)**

Host: *Cornus sanguinea* L. and *C. mas* L. (Cornaceae).

References: J.: 1982, P.: 1983, S.: 1968a.

Localities: Beograd: Topčiderski park; Boljevci; Crni lug; Fruška gora; Kosmaj; Mala Moštanica: Žuto brdo; Progar: Bojčinska šuma; Stari Slankamen: Koševac.

Distribution: sub-Mediterranean.

***Cystiphora sonchi* (Bremi, 1847)**

Host: *Sonchus arvensis* L. and *S. oleraceus* L. (Asteraceae).

References: S.: 1968a, S. Sm. St.: 1992, S. et al: 1996a.

Distribution: Euro-Siberian.

***Cystiphora taraxaci* (Kieffer, 1888)**

Host: *Taraxacum officinale* Web., *T. nigricans* (Kit.) Rchb. (Asteraceae).

References: S.: 1968a, 1969, S. Sm. St.: 1992, S. et al: 1996a.

Localities: Goč; Surduk.

Distribution: Euro-Siberian.

*** *Dasineura abietiperda* (Henschel, 1880)**

Host: *Picea abies* (L.) Karsten (Pinaceae).

Localities: Avala; Fruška gora; Zlatibor.

Distribution: European.

***Dasineura acrophila* (Winnertz, 1853)**

Host: *Fraxinus angustifolia* Vahl., *F. americana* L., *F. excelsior* L., *F. oxycarpa* Willd. (Oleaceae).

References: J.: 1977, 1982; S.: 1968a.

Localities: Beograd: Kalemegdan; Ljig; Progar: Bojčinska šuma; Smederevo: Lugavčina; Stol; Šabac: Belotić; Zemun: ušće; Zrenjanin: Perleska bara.

Distribution: European.

* ***Dasineura acuminata* (Rübsaamen, 1915)**

Host: *Campanula bononiensis* L. (Campanulaceae).

Locality: Bukulja.

Distribution: European.

***Dasineura affinis* (Kieffer, 1886)**

Host: *Viola odorata* L., *V. cyanea* Čelak. (Violaceae).

References: P.: 1983a; S.: 1968, S. Sm. St.: 1992, S. et al: 1996a.

Distribution: European.

***Dasineura aparines* (Kieffer, 1889)**

Host: *Galium aparine* L. (Rubiaceae).

Reference: J.: 1982.

Localities: Čortanovci; Debeli lug; Goč: Dobre vode.

Distribution: European.

* ***Dasineura asperulae* (F. Löw, 1875)**

Host: *Asperula ciliata* Roch. (Rubiaceae).

Locality: Ljig.

Distribution: European.

***Dasineura bayeri* (Rübsaamen, 1914)**

Host: *Sisymbrium orientale* L. (Brassicaceae).

Reference: P.: 1983a.

Locality: Stari Slankamen

Distribution: European.

* ***Dasineura bistortae* (Kieffer, 1886)**

Host: *Polygonum bistorta* L. (Polygonaceae).

Locality: Mačva: Radenković.

Distribution: European.

* ***Dasineura brassicae* (Winnertz, 1853)**

Host: *Brassica oleracea* L., *B. napus* L. (Brassicaceae).

Localities: Beograd; Majdanpek; Pančevo; Požarevac; Smederevo; Zemun; Zrenjanin.

Distribution: European. Potential pest.

***Dasineura capsulae* (Kieffer, 1901)**

Host: *Euphorbia cyparissias* L., *E. helioscopia* L., *E. virgata* W. K., *E. salicifolia* Host., *E. esula* L. (Euphorbiaceae).

References: S.: 1968a, 1969; S. Sm. St.: 1992.

Localities: Gamzigrad; Gornjanska klisura; Leskovac; Smederevo; Topola.

Distribution: European.

* ***Dasineura cardaminis* (Winnertz, 1853)**

Host: *Cardamine flexuosa* With. (Brassicaceae).
Locality: Goč: Dobre vode.
Distribution: European.

- * ***Dasineura cerastii*** (Binnie, 1877)
Host: *Cerastium* sp. (Caryophyllaceae).
Locality: Vladimirci: Krnule.
Distribution: European.

Dasineura cotini (Janežić, 1978)
Host: *Cotinus coggygria* Scop. (Anacardiaceae).
Reference: J.: 1982..
Distribution: sub-Mediterranean.

Dasineura crataegi (Winnertz, 1853)
Host: *Crataegus monogyna* Jacq., *C. oxyacantha* L. (Rosaceae).
References: Ba.: 1928; J.: 1977, 1982; P.: 1983; S.: 1965, 1965a, 1968a; Sk.
Sk.: 1964; T.: 1903.
Distribution: European. Widespread in Serbia and very common.

- * ***Dasineura daphnephila*** (Kieffer, 1909)
Host: *Daphne* sp. (Thymelaeaceae).
Locality: Zemun: Kej.
Distribution: European.

Dasineura filicina (Kieffer, 1889)
Host: *Pteridium aquilinum* (L.) Kuhn. (Hypolepidaceae).
Reference: J.: 1977.
Localities: Goč; Kosmaj.
Distribution: Euro-Siberian.

- * ***Dasineura filipendulae*** (Kieffer, 1909)
Host: *Filipendula hexapetala* Gilib. (Rosaceae).
Localities: Divčibare; Goč; Rajac.
Distribution: European.

Dasineura fraxinea (Kieffer, 1907)
Host: *Fraxinus excelsior* L., *F. angustifolia* Vahl., *F. oxycarpa* Willd. (Oleaceae).
References: J.: 1977, 1982; P.: 1983.
Localities: Beograd: Vinča; Boljevc: Crni lug; Goč: Dobre vode; Ljig; Smederevo: Lugavčina.
Distribution: European. Potential pest.

Dasineura fraxini (Bremi, 1847)
Host: *Fraxinus excelsior* L., *F. ornus* L. (Oleaceae).
References: J.: 1982, 1977.
Localities: Boljevc: Crni lug; Debeli lug; Goč: Dobre vode; Ljig; Mala Moštanica: Žuto brdo; Smederevo: Lugavčina.
Distribution: European. Potential pest.

Dasineura galiicaulis Stelter in Buhr, 1964
Host: *Galium mollugo* L. (Rubiaceae).
Reference: J.: 1982.

Distribution: European.

Dasineura galiicola (F. Löw, 1880)

Host: *Galium aparine* L. (Rubiaceae).

References: S. Sm. St.: 1992; S. et al: 1996.

Distribution: Euro-Siberian.

Dasineura glechomae (Kieffer, 1889)

Host: *Glechoma hederacea* L. (Lamiaceae).

Reference: J.: 1982.

Locality: Donji Milanovac: Tekija.

Distribution: European.

Dasineura gleditschiae (Osten Sacken, 1866)

Host: *Gleditschia triacanthos* L. (Fabaceae).

Reference: Š. Sk.: 1995.

Localities: Čortanovci; Mala Moštanica; Sakule; Stari Slankamen; Zrenjanin:

Carska bara, Perleska bara.

Distribution: Originally Nearctic, secondarily spread in Europe.

* ***Dasineura glyciophylli*** (Rübsaamen, 1912)

Host: *Astragalus cicer* L. (Fabaceae).

Locality: Boljevc: Crni lug.

Distribution: European.

* ***Dasineura harrisoni*** (Bagnall, 1922)

Host: *Filipendula hexapetala* Gilib. (Rosaceae).

Localities: Goč: Dobre vode; Rajac; Rudnik; Stol.

Distribution: European.

Dasineura hyperici (Bremi, 1847)

Host: *Hypericum perforatum* L. (Hypericaceae).

References: S.: 1968a; S. Sm. St.: 1992.

Localities: Beograd: Stepin gaj; Debeli lug; Gamzigrad; Goč: Dobre vode;

Ljig; Zaječar: Brusnik.

Distribution: European.

Dasineura irregularis (Bremi, 1847)

Host: *Acer pseudoplatanus* L. (Aceraceae).

References: P.: 1983; J.: 1982..

Localities: Beograd; Beograd: Stepin Gaj; Topola; Zemun.

Distribution: European. Potential pest.

* ***Dasineura lathyri*** (Kieffer, 1909)

Host: *Lathyrus latifolius* L., *Lathyrus pratensis* L. (Fabaceae).

Localities: Šid; Vladimirci: Krnule; Zrenjanin: Perleska bara.

Distribution: Euro-Siberian.

Dasineura lathyricola (Rübsaamen, 1890)

Host: *Lathyrus pratensis* L., *L. tuberosus* L. (Fabaceae).

References: S.: 1968a, 1969; S. Sm. St.: 1992.

Distribution: Euro-Siberian.

Dasineura linosyridis (Möhn, 1958)

Host: *Aster tripolium* L. subsp. *pannonicus* (Jacq.) (Asteraceae).

Reference: P.:1983.

Distribution: European.

* ***Dasineura lithospermi*** (Loew, 1850)

Host: *Lithospermum arvense* L. (Boraginaceae).

Locality: Mačva: Radenković.

Distribution: Euro-Siberian.

* ***Dasineura loewii*** (Mik, 1882)

Host: *Euphorbia seguierana* Neck., *E. virgata* W. K. (Euphorbiaceae).

Localities: Čortanovci; Deliblatska peščara: Devojački bunar; Obrenovac;

Smederevo: Lugavčina.

Distribution: European.

Dasineura lupulinae (Kieffer, 1891)

Host: *Medicago lupulina* L. (Fabaceae).

References: S.: 1968a; S. Sm. St.: 1992.

Localities: Knjaževac; Negotin; Vršac; Zaječar.

Distribution: European.

Dasineura mali (Kieffer, 1904)

Host: *Malus sylvestris* Mill., *M. domestica* Borkh. (Rosaceae).

References: J.: 1977, 1982; S.: 1969, 1974, 1978.

Distribution: Holarctic. Potential pest.

Dasineura medicaginis (Bremi, 1847)

Host: *Medicago sativa* L. (Fabaceae).

References: H.: 1955; Je.: 1954; Jo.: 1954; M. B.: 1949; P.: 1983a; Pe.: 1988;
R.: 1973; S.: 1965, 1968a; T.: 1953.

Distribution: Euro-Siberian. Widespread in Serbia and very common. Pest.

Dasineura myosotidis (Kieffer, 1902)

Host: *Myosotis palustris* (L.) Hill. (Boraginaceae).

Reference: S. Sm. St.: 1992.

Locality: Zrenjanin: Perleska bara.

Distribution: European.

Dasineura papaveris (Winnertz, 1853)

Host: *Papaver rhoeas* L., *P. somniferum* L. (Papaveraceae).

References: I.: 1954; S.: 1965, 1968a; S. Sm. St.: 1992; S. et al: 1996a.

Distribution: European. Potential pest.

Dasineura plicatrix (Loew, 1850)

Host: *Rubus caesius* L., *R. idaeus* L. (Rosaceae).

References: S.: 1968a, 1970, 1978; J.: 1977, 1982.

Distribution: European. Widespread in Serbia and quite common. Potential pest.

Dasineura populeti (Rübsaamen, 1889)

Host: *Populus tremula* L. (Salicaceae).

References: S.: 1968a; S. Vu.: 1999.

Distribution: Euro-Siberian.

Dasineura populnea (Kieffer, 1909)

Host: *Populus alba* L., *P. tremula* L. (Salicaceae).

Reference: S. Vu.: 1999.

Distribution: European.

* ***Dasineura potentillae*** (Wachtl, 1885)

Host: *Potentilla argentea* L. (Rosaceae).

Locality: Beograd: Stepin gaj.

Distribution: Euro-Siberian.

* ***Dasineura prunicola*** (F. Löw, 1889)

Host: Inquiline in the galls of *Putoniella pruni* (Kaltenbach) on *Prunus spinosa* L. (Rosaceae).

Localities: Arandjelovac; Čačak.

Distribution: European.

* ***Dasineura pteridicola*** (Kieffer, 1901)

Host: *Pteridium aquilinum* (L.) Kuhn. (Hypolepidaceae).

Localities: Goč: Dobro vodo; Tara; Zlatar.

Distribution: European.

* ***Dasineura pustulans*** (Rübsaamen, 1889)

Host: *Filipendula ulmaria* (L.) Maxim. (Rosaceae).

Localities: Debeli lug; Zaječar: Crni vrh.

Distribution: European.

Dasineura pyri (Bouché, 1847)

Host: *Pyrus communis* L., *P. pyraeaster* Borkh. (Rosaceae).

References: J.: 1982; S.: 1968a, 1969a, 1978.

Distribution: Holarctic. Widespread in Serbia. Pest.

Dasineura ranunculi (Bremi, 1847)

Host: *Ranunculus repens* L., *R. acer* L. (Ranunculaceae).

References: Ba.: 1928; J.: 1982; S.: 1968, 1968a; S. Sm. St.: 1992.

Locality: Vladimirci: Krnule.

Distribution: Euro-Siberian.

* ***Dasineura ruebsaameni*** (Kieffer, 1909)

Host: *Carpinus betulus* L. (Corylaceae).

Localities: Beograd: Košutnjak; Topola.

Distribution: European.

Dasineura salviae (Kieffer, 1909)

Host: *Salvia pratensis* L., *S. verticillata* L. (Lamiaceae).

Reference: S. Sm. St.: 1992.

Localities: Beograd: Ada Huja, Topčider; Čortanovci; Krnule: Vladimirci; Vršacki breg; Zrenjanin: Batoški rit.

Distribution: European.

Dasineura sampaina (Tavares, 1902)

Host: *Linum catharticum* L., *L. usitatissimum* L. (Linaceae).

Reference: S. Sm. St.: 1992.

Locality: Deliblatska pešćara: Ašanja.

Distribution: sub-Mediterranean.

* ***Dasineura schulzei*** (Rübsaamen, 1917)

Host: *Euphorbia helioscopia* L., *E. seguierana* Neck. (Euphorbiaceae).

Localities: Deliblatska peščara: Devojački bunar; Obrenovac; Zemun: Surčin.

Distribution: European.

Dasineura serotina (Winnertz, 1853)

Host: *Hypericum perforatum* L. (Hypericaceae).

Reference: J.: 1977.

Distribution: European.

Dasineura sisymbrii (Schränk, 1803)

Host: *Rorippa silvestris* (L.) Bess. (Brassicaceae).

References: J.: 1977; P.: 1983a; S. Sm. St.: 1992; T.: 1903.

Locality: Mala Moštanica: Žuto brdo.

Distribution: European.

Dasineura subpatula (Bremi, 1847)

Host: *Euphorbia cyparissias* L., *E. helioscopia* L., *E. myrsinites* L., *E. salicifolia*, *E. seguierana* Neck. (Euphorbiaceae).

References: S.: 1968a; S. Sm. St.: 1992.

Localities: Avala; Boljevci: Crni lug; Kosmaj; Sakule; Zemun: Surčin, Zemun polje; Zrenjanin: Perleska bara.

Distribution: European.

Dasineura symphyti (Rübsaamen, 1891)

Host: *Symphytum officinale* L. (Boraginaceae).

References: P.: 1983a, S. Sm. St.: 1992.

Localities: Beograd: Resnik; Negotin; Zaječar.

Distribution: European.

Dasineura szepligetii (Kieffer, 1909)

Host: *Campanula rapunculoides* L. (Campanulaceae).

Reference: P.: 1983a.

Distribution: European.

Dasineura tetensi (Rübsaamen, 1891)

Host: *Ribes nigrum* L. (Grossulariaceae).

Reference: S. D.: 1981.

Distribution: Euro-Siberian. Pest.

* ***Dasineura teucriti*** (Tavares, 1903)

Host: *Teucrium chamaedrys* L. (Lamiaceae).

Locality: Stari Slankamen.

Distribution: European.

Dasineura thomasiana (Kieffer, 1888)

Host: *Tilia tomentosa* Moench., *T. platyphyllos* Scop. (Tiliaceae).

References: J.: 1977, 1982; S.: 1968a, 1969..

Distribution: European.

Dasineura tiliae (Schränk, 1803)

Host: *Tilia cordata* Mill., *T. platyphyllos* Scop. (Tiliaceae).

References: J.: 1982; S.: 1965, 1965a, 1968a.

Distribution: Euro-Siberian. Quite common.

Dasineura tortilis (Bremi, 1847)

Host: *Alnus glutinosa* (L.) Gaertn. (Betulaceae).

Reference: J.: 1977.

Localities: Kragujevac; Vrnjačka banja.

Distribution: European.

Dasineura tortrix (F. Löw, 1877)

Host: *Prunus spinosa* L., *P. domestica* L. (Rosaceae).

References: S.: 1965, 1965a, 1968a, 1978.

Distribution: European. Widespread in Serbia and quite common. Potential pest.

* ***Dasineura traili*** (Kieffer, 1909)

Host: *Ranunculus acris* L. (Ranunculaceae).

Localities: Divčibare; Rajac; Rudnik.

Distribution: European.

Dasineura trifolii (F. Löw, 1874)

Host: *Trifolium pratense* L., *T. repens* L. (Fabaceae).

References: J.: 1977; S.: 1968a, 1976; S. Sm. St.: 1992.

Distribution: Euro-Siberian – Holarctic.

Dasineura tubularis (Kieffer, 1909)

Host: *Quercus cerris* L. (Fagaceae).

Reference: J.: 1982.

Distribution: Mediterranean.

Dasineura tympani (Kieffer, 1909)

Host: *Acer campestre* L. (Aceraceae).

Reference: Sk. Sk.: 1964.

Localities: Avala; Beograd: Vinča; Divčibare; Kosmaj; Kupinovo; Lazarevac; Ljig; Stari Slankamen; Zaječar: Vrška Čuka.

Distribution: European.

* ***Dasineura ulmaria*** (Bremi, 1847)

Host: *Filipendula ulmaria* (L.) Maxim (Rosaceae).

Localities: Stol; Zlatar.

Distribution: Euro-Siberian.

Dasineura urticae (Perris, 1840)

Host: *Urtica dioica* L. (Urticaceae).

References: J.: 1982; P.: 1983a; S.: 1968a; S. Sm. St.: 1992.

Distribution: Euro-Siberian. Widespread and quite common.

Dasineura verbasci (Kieffer, 1909)

Host: *Verbascum lychnitis* L., *V. thapsus* L. (Scrophulariaceae).

References: S.: 1965, 1968a.

Distribution: European.

Dasineura viciae (Kieffer, 1888)

Host: *Vicia cracca* L., *V. pannonica* Cr., *V. sativa* L. (Fabaceae).

References: J.: 1982; S.: 1968a; S. Sm. St.: 1992; S. et al: 1996a.

Distribution: Euro-Siberian.

* ***Dasineura vincae*** (Kieffer et Trotter, 1904)

Host: *Vinca* sp. (Apocyanaceae).
Locality: Deliblatska peščara.
Distribution: European.

Dasineura violae (F. Löw, 1880)

Host: *Viola tricolor* L. (Violaceae).
Reference: S. Sm. St.: 1992.
Localities: Ozren; Šid: Ilinci.
Distribution: European.

* ***Dichodiplosis langeni*** Rübsaamen, 1910

Host: *Polystigma rubra* (Pers.) (Polystigmataceae) on *Prunus spinosa* L. (Rosaceae).
Localities: Šid: Ilinci; Zemun.
Distribution: European.

Didymomyia tiliacea (Bremi, 1847)

Host: *Tilia cordata* Mill., *T. platyphyllos* Scop., *T. tomentosa* Moench. (Tiliaceae).
References: J.: 1982; P.: 1983; S.: 1965, 1968a.
Distribution: Euro-Siberian. Widespread, quite common.

Diodaulus linariae (Winnertz, 1853)

Host: *Linaria vulgaris* Mill. (Scrophulariaceae).
References: P.: 1983a; S. Sm. St.: 1992.
Localities: Beograd: Braće Jerković; Čortanovci; Progar: Bojčinska šuma; Mačva: Radenković.
Distribution: Euro-Siberian.

Drisina glutinosa Giard, 1893

Host: *Acer campestre* L., *A. platanoidea* L., *A. pseudoplatanus* L. (Aceraceae).
References: J.: 1977, 1982; P.: 1983.
Localities: Avala; Barajevo; Boljevci: Crni lug; Goč; Kosmaj; Obedska bara; Progar: Bojčinska šuma; Užice; Valjevo.
Distribution: European. Potential pest.

Dryomyia circinans (Giraud, 1861)

Host: *Quercus cerris* L. (Fagaceae).
References: Ba.: 1928; J.: 1982; P.: 1983; S.: 1968a, 1971.
Distribution: Mediterranean. Quite common.

Geocrypta galii (Loew, 1850)

Host: *Galium aparine* L., *G. verum* L., *G. mollugo* L. (Rubiaceae).
References: J.: 1977, 1982; S. Sm. St.: 1992; S. et al: 1996a; Sk. Sk.: 1964.
Localities: Beograd: Lipovačka šuma; Debeli lug; Deliblatska peščara: Devojački bunar; Fruška gora; Ljig; Zlatibor.
Distribution: Euro-Siberian.

* ***Gephyraulius raphanistri*** (Kieffer, 1886)

Host: *Raphanus raphanistrum* L. (Brassicaceae).
Localities: Novi Banovci, Novi Slankamen.

Distribution: European.

Giraudiella inclusa (Frauenfeld, 1862)

Host: *Phragmites australis* (Cav.) Trin. (Poaceae).

Reference: S. Vu.: 1996.

Distribution: European.

Hadrobremia longiventris (Kieffer, 1909)

Host: *Trifolium medium* L. (Fabaceae).

Reference: P.: 1983a.

Distribution: European.

Haplodiplosis marginata (von Roser, 1840)

Host: *Triticum vulgare* L. (Poaceae).

References: B.: 1957; Je.: 1954; S.: 1968a; S. Vu.: 1990; S. et al: 1996a.

Distribution: European. Pest.

Harmandiola cavernosa (Rübsaamen, 1899)

Host: *Populus alba* L., *P. tremula* L. (Salicaceae).

Reference: S. Vu.: 1999.

Distribution: Euro-Siberian.

Harmandiola globuli (Rübsaamen, 1889)

Host: *Populus tremula* L. (Salicaceae).

Reference: S. Vu.: 1999.

Distribution: Euro-Siberian.

Harmandiola populi Rübsaamen, 1917

Host: *Populus tremula* L. (Salicaceae).

Reference: S. Vu.: 1999.

Distribution: Euro-Siberian.

Harmandiola pustulans Kieffer, 1909

Host: *Populus alba* L., *P. tremula* L. (Salicaceae).

Reference: S. Vu.: 1999.

Distribution: Euro-Siberian.

Harmandiola tremulae (Winnertz, 1853)

Host: *Populus alba* L., *P. tremula* L. (Salicaceae).

Reference: S. Vu.: 1999.

Distribution: Euro-Siberian.

* ***Harrisomyia vitrina*** (Kieffer, 1909)

Host: *Acer pseudoplatanus* L. (Aceraceae).

Localities: Jastrebac; Kosmaj.

Distribution: European. Potential pest.

Hartigiola annulipes (Hartig, 1839)

Host: *Fagus sylvatica* L. (Fagaceae).

References: P.: 1983; S. 1968a.

Localities: Avala, Debeli lug; Donji Milanovac: Tekija; Goč; Jastrebac;

Kosmaj; Vlasinsko jezero; Zlatar.

Distribution: European.

Hybolasioptera cerealis (Lindeman, 1881)

Host: *Secale cereale* L. (Poaceae).

Reference: S.: 1968a.

Distribution: European.

***Iteomyia capreae* (Winnertz, 1853)**

Host: *Salix caprea* L. (Salicaceae).

References: S.: 1965, 1968a.

Localities: Boljevci: Crni lug; Debeli lug; Đerdap; Goč; Kosmaj.

Distribution: Euro-Siberian.

*** *Jaapiella bryoniae* (Bouché, 1847)**

Host: *Bryonia alba* L. (Cucurbitaceae).

Localities: Mačva: Radenković; Stari Slankamen.

Distribution: European.

*** *Jaapiella cirsiicola* Rübsaamen, 1915**

Host: *Cirsium arvense* (L.) Scop. (Asteraceae).

Localities: Fruška gora: Stražilovo; Mačva: Belotić; Novi Beograd: Galovica.

Distribution: Euro-Siberian.

***Jaapiella cucubali* (Kieffer, 1909)**

Host: *Cucubalus baccifer* L. (Caryophyllaceae).

Reference: S. Sm. St.: 1992.

Distribution: sub-Mediterranean.

***Jaapiella floriperda* (F. Löw, 1888)**

Host: *Silene vulgaris* (Moench) Garcke (Caryophyllaceae).

References: P.: 1983a; S. Sm. St.: 1992.

Localities: Avala; Boljevci: Crni lug.

Distribution: European.

***Jaapiella genisticola* (F. Löw, 1877)**

Host: *Genista germanica* L. (Fabaceae).

Reference: P.: 1983a.

Locality: Vršački breg.

Distribution: Euro-Siberian.

***Jaapiella jaapiana* (Rübsaamen, 1914)**

Host: *Medicago lupulina* L. (Fabaceae).

References: S.: 1968a; Sk. Sk.: 1964.

Distribution: European.

***Jaapiella loticola* (Rübsaamen, 1889)**

Host: *Lotus corniculatus* L. (Fabaceae).

References: S.: 1968a, 1969; S. Sm. St.: 1992.

Distribution: Euro-Siberian.

***Jaapiella medicaginis* (Rübsaamen, 1912)**

Host: *Medicago sativa* L. (Fabaceae).

References: S.: 1968a; Pe.: 1988.

Localities: Beograd: Novo Selo; Bor; Brusnik; Kosmaj; Novi Sad; Požarevac; Smederevo; Sombor; Zaječar; Zrenjanin; Vrbas; Vršac.

Distribution: Euro-Siberian. Potential pest.

* ***Jaapiella rubicundula*** (Rübsaamen, 1891)

Host: *Rumex acetosa* L. (Polygonaceae).

Locality: Stol.

Distribution: European.

* ***Jaapiella schmidtii*** (Rübsaamen, 1912)

Host: *Plantago lanceolata* L. (Plantaginaceae).

Locality: Novi Beograd: Sava.

Distribution: European.

* ***Jaapiella vaccinatorum*** (Kieffer, 1913)

Host: *Vaccinium myrtillus* L. (Ericaceae).

Locality: Zlatibor.

Distribution: European.

Jaapiella veronicae (Vallot, 1827)

Host: *Veronica chamaedrys* L., *V. officinalis* L. (Scrophulariaceae).

References: J.: 1982; P.: 1983a; S.: 1968a.

Localities: Avala; Debeli lug; Divčibare; Goč; Kosmaj; Paraćin: Grza; Stol; Valjevo; Vršački breg; Zemun: Surčin.

Distribution: European.

* ***Jaapiella volvens*** Rübsaamen, 1917

Host: *Lathyrus pratensis* L. (Fabaceae).

Localities: Novi Beograd: Galovica; Stari Banovci; Zrenjanin: Perleska bara.

Distribution: Euro-Siberian.

Janetia cerris (Kollar, 1850)

Host: *Quercus cerris* L. (Fagaceae).

References: Ba.: 1928; J. 1982; S.: 1965, 1965a, 1968, 1971.

Distribution: Mediterranean. Widespread and very common.

Janetia homocera (F. Löw, 1877)

Host: *Quercus cerris* L. (Fagaceae).

References: J. 1982; S.: 1965, 1968a.

Localities: Bujanovac: Prohor Pčinjski; Kosmaj; Vlasinsko jezero.

Distribution: Mediterranean.

Janetia nervicola (Kieffer, 1909)

Host: *Quercus cerris* L. (Fagaceae).

References: T.: 1903; S.: 1968a.

Localities: Avala; Beograd: Grocka, Lipovačka šuma, Vrčin; Kupinovo;

Topola; Zaječar: Crni vrh.

Distribution: Mediterranean.

Janetia pustularis (Kieffer, 1909)

Host: *Quercus cerris* L. (Fagaceae).

References: J.: 1982; S.: 1968a.

Localities: Barajevo; Fruška gora: Stražilovo; Goč; Kosmaj; Kupinovo;

Zaječar: Crni vrh.

Distribution: Mediterranean.

Janetia szepligetii Kieffer, 1896

Host: *Quercus cerris* L. (Fagaceae).

Reference: T.: 1903.

Localities: Avala; Mladenovac; Topola: Oplenac; Valjevo; Vlasinsko jezero.

Distribution: Mediterranean.

Janetiella lemeei (Kieffer, 1904)

Host: *Ulmus minor* Mill. (Ulmaceae).

References: J.: 1982; S.: 1968a.

Localities: Avala; Goč; Kupinovo, Mala Moštanica: Žuto brdo.

Distribution: European.

Janetiella oenophila (Haimhoffen, 1875)

Host: *Vitis vinifera* L. (Vitaceae).

Reference: P.: 1983a.

Localities: Leskovac; Vršачki vinogradi.

Distribution: European.

* ***Janetiella thymi*** (Kieffer, 1888)

Host: *Thymus serpyllum* L., *Th. pannonicus* All. (Lamiaceae).

Localities: Divčibare; Novi Beograd: Bežanijska kosa; Struganik; Zemun: Dunav.

Distribution: Euro-Siberian.

* ***Kaltenbachiola strobi*** (Winnertz, 1853)

Host: *Picea abies* (L.) Karsten, *P. omorika* (Pančić) Purkyně (Pinaceae).

Locality: Tara.

Distribution: European.

Kiefferia pericarpiicola (Bremi, 1847)

Host: *Carum carvi* L., *Daucus carota* L., *Conium maculatum* L., *Foeniculum vulgare* Mill., *Pastinaca sativa* L., *Peucedanum oreoselinum* (L.) Mch., *Pimpinella maior* (L.) Huds., *P. saxifraga* L. (Apiaceae).

References: J.: 1982; P.: 1983a; S.: 1968a; S. Sm. St.: 1992.

Distribution: Euro-Siberian. Widespread and very common. Potential pest.

Kochiomyia kochiae (Kieffer, 1909)

Host: *Kochia prostrata* (L.) Schrad (Chenopodiaceae).

Reference: P.: 1983a.

Localities: Batajnica: Dunav; Stari Slankamen; Surduk.

Distribution: European, Pontic-Pannonian.

Lasioptera arundinis Schiner, 1854

Host: *Phragmites australis* (Cav.) Trin. (Poaceae).

References: J.: 1977, 1982; S. Vu. Sm.: 1996.

Distribution: European.

Lasioptera carophila F. Löw, 1874

Host: *Carum carvi* L., *Daucus carota* L., *Conium maculatum* L., *Foeniculum vulgare* Mill., *Pastinaca sativa* L., *Pimpinella maior* (L.) Huds., *P. anisum* L. (Apiaceae).

References: J.: 1982; S. Sm. St.: 1992.

Distribution: European. Widespread and very common.

Lasioptera eryngii (Vallot, 1829)

Host: *Eryngium campestre* L..

References: S.: 1968a, 1969b; S. Sm. St.: 1992.
Locality: Stari Slankamen.
Distribution: sub-Mediterranean.

***Lasioptera hungarica* Möhn, 1968**

Host: *Phragmites australis* (Cav.) Trin (Poaceae).
Reference: S. Vu. Sm.: 1996.
Distribution: European.

***Lasioptera populnea* Wachtl, 1883**

Host: *Populus alba* L. (Salicaceae).
Reference: S. Vu.: 1999.
Distribution: European.

***Lasioptera rubi* (Schränk, 1803)**

Host: *Rubus caesius* L., *R. fruticosus* L., *R. idaeus* L., *R. tomentosus* Borkh. (Rosaceae).
References: P.: 1983; S.: 1965, 1965a, 1978; S. Do.: 1966; S. et al: 1996a.
Distribution: Euro-Siberian. Widespread and very common in Serbia on wild and cultivated *Rubus* species. Pest.

* ***Lathyromyza schlechtendali* (Kieffer, 1886)**

Host: *Lathyrus linifolius* (Reichard) Bässl. (Fabaceae).
Locality: Mačva: Radenković.
Distribution: Euro-Siberian.

* ***Lestodiplosis affinis* Barnes, 1928**

Host: Zoophagous on *Dasineura affinis* (Kieffer) on *Viola* sp. (Violaceae).
Localities: Beograd: Lipovačka šuma; Zemun.
Distribution: European.

* ***Lestodiplosis callida* (Winnertz, 1853)**

Host: Zoophagous on *Dasineura papaveris* (Winnertz) on *Papaver rhoeas* L. (Papaveraceae).
Locality: Zemun.
Distribution: European.

***Lestodiplosis plicatricis* Barnes, 1928**

Host: Zoophagous on *Dasineura plicatrix* (Loew) on *Rubus fruticosus* L. (Rosaceae).
Reference: S.: 1970.
Distribution: European.

* ***Loewiola centaureae* (F. Löw, 1875)**

Host: *Centaurea jacea* L., *C. scabiosa* L. (Asteraceae).
Localities: Čortanovci; Deliblatska peščara; Grocka: Vrčin; Vladimirci: Krnule.
Distribution: European.

***Macrodiptosis dryobia* (F. Löw, 1877)**

Host: *Quercus cerris* L., *Q. farnetto* Ten., *Q. pubescens* Willd., *Q. robur* L. (Fagaceae).
References: J.: 1982; S.: 1965, 1965a, 1968a.
Distribution: European.

***Macrodiplosis volvens* Kieffer, 1895**

Host: *Quercus cerris* L., *Q. farnetto* Ten., *Q. robur* L. (Fagaceae).

References: J.: 1977, 1982; P.: 1983; S.: 1968a.

Localities: Beograd: Stepin gaj; Fruška gora: Stražilovo; Mala Moštanica: Žuto brdo.

Distribution: European.

***Macrolabis lamii* Rübsaamen, 1915**

Host: *Lamium album* L. (Lamiaceae).

References: S.: 1968a, 1969.

Localities: Donji Milanovac; Vršac.

Distribution: European.

***Macrolabis luceti* Kieffer, 1899**

Host: Inquiline in galls of *Wachtliella rosarum* (Hardy) on *Rosa* sp. (Rosaceae).

References: S.: 1968a, 1969.

Distribution: European.

*** *Macrolabis pavidia* (Winnertz, 1853)**

Host: Inquiline in galls of *Dasineura acrophila* (Winnertz, 1853) on *Fraxinus excelsior* L. (Oleaceae).

Locality: Smederevo: Lugavčina.

Distribution: European.

*** *Macrolabis podagrariae* Stelter, 1962**

Host: *Aegopodium podagraria* L. (Apiaceae).

Localities: Ljig; Pančevo; Rajac; Stara Pazova.

Distribution: European.

***Macrolabis stellariae* (Liebel, 1889)**

Host: *Stellaria media* (L.) Vill. (Caryophyllaceae).

Reference: S. et al: 1996.

Locality: Goč: Dobre vode.

Distribution: European.

***Massalongia rubra* (Kieffer, 1890)**

Host: *Betula pendula* Roth., *B. pubescens* Ehrh., B. (Betulaceae).

References: S.: 1968a, 1969.

Localities: Goč; Zlatar.

Distribution: European.

*** *Mayetiola dactylidis* Kieffer, 1896**

Host: *Dactylis glomerata* L. (Poaceae).

Localities: Dugaljica; Novi Beograd: Galovica.

Distribution: European.

***Mayetiola destructor* (Say, 1817)**

Host: *Triticum vulgare* L., *Hordeum sativum* L., *Secale cereale* L., *Poa nemoralis* L. (Poaceae).

References: M. B.: 1949; S.: 1965, 1965a, 1968a; S. Vu.: 1990.

Distribution: Holarctic. Pest.

***Mayetiola poae* (Bosc, 1817)**

Host: *Poa nemoralis* L. (Poaceae).
References: S.: 1968a; S. Sm. St.: 1992.
Localities: Debeli lug; Ljig; Paraćin: Grza; Rajac.
Distribution: European.

Mikiola fagi (Hartig, 1839)

Host: *Fagus moesiaca* (Domin, Maly) Czeaczott, *F. sylvatica* L. (Fagaceae).
References: J.: 1982; P.: 1983; S.: 1965, 1965a, 1968a.
Distribution: European. Widespread and common. Potential pest.

Mikomya coryli (Kieffer, 1901)

Host: *Coryllus avellana* L. (Corylaceae).
Reference: Sk. Sk.: 1964.
Locality: Zaječar: Gornjane.
Distribution: European.

Monarthropalus flavus (Schränk, 1776)

Host: *Buxus sempervirens* L. (Buxaceae).
References: J.: 1977, 1982; S. Mi. Vi.: 1985.
Distribution: Holarctic. Quite common.

* ***Mycodiplosis coniophaga*** (Winnertz, 1853)

Host: *Uromyces pisi* Schroet. (Pucciniaceae) on *Euphorbia* spp. (Euphorbiaceae).
Locality: Zrenjanin: Batoški rit.
Distribution: European.

* ***Mycodiplosis melampsorae*** (Rübsaamen, 1889)

Host: *Melampsora salicina* Wint. (Melampsoraceae) on *Salix* sp. (Salicaceae).
Locality: Novi Beograd.
Distribution: European.

* ***Mycodiplosis plasmoparae*** Rübsaamen, 1906

Host: Leaves of *Vitis vinifera* L. (Vitaceae) rolled up by *Byctiscus betulae* L. (Attelabiidae).
Locality: Beograd: Radmilovac.
Distribution: European.

* ***Mycodiplosis pucciniae*** (Rübsaamen, 1889)

Host: *Puccinia* spp. (Pucciniaceae) on *Urtica dioica* L. (Urticaceae) and *Triticum vulgare* L. (Poaceae).
Localities: Beograd: Radmilovac; Šid; Vršac.
Distribution: European.

Neomikiella lychnidis Heyden, 1816

Host: *Melandrium album* (Mill) Garcke., *Silene densiflora* D'Urv., *S. otites* (L.) Sm. (Caryophyllaceae).
References: P.: 1983, 1983a; S.: 1968a; S. Sm. St.: 1992; T.: 1903.
Localities: Deliblatska peščara: Devojački bunar; Mala Moštanica: Žuto brdo; Stari Slankamen; Vladimirci.
Distribution: sub-Mediterranean.

Oligotrophus juniperinus (Linnaeus, 1758)

Host: *Juniperus communis* L. (Cupressaceae).

- Reference: J.: 1982..
Localities: Jastrebac; Kopaonik; Zlatar.
Distribution: European.
- * *Oligotrophus panteli* Kieffer, 1898
Host: *Juniperus communis* L. (Cupressaceae).
Localities: Goč; Vlasinsko jezero; Zlatar.
Distribution: European.
- * *Oligotrophus schmidtii* Rübsaamen, 1914
Host: *Juniperus communis* L. (Cupressaceae).
Localities: Jastrebac; Zlatar.
Distribution: European.
- Oligotrophus szepligetii* Kieffer, 1909
Host: *Acer tataricum* L. (Aceraceae).
References: J.: 1982; S.: 1968a.
Localities: Beograd: Topčiderski park; Čačak; Fruška gora: Stražilovo;
Kupinovo: Obedska bara; Loznica; Mala Moštanica: Žuto brdo; Progar:
Bojčinska šuma; Sremska Mitrovica; Stari Slankamen: Koševac.
Distribution: European, Pannonian.
- Ozirhincus longicollis* Rondani, 1840
Host: *Matricaria inodora* L. (Asteraceae).
Reference: S. Sm. St.: 1992.
Distribution: European.
- Ozirhincus millefolii* (Wachtl, 1884)
Host: *Achillea millefolium* L. (Asteraceae).
Reference: S. Sm. St.: 1992.
Distribution: Euro-Siberian – Holarctic.
- Ozirhincus tanacetii* (Kieffer, 1889)
Host: *Tanacetum vulgare* L. (Asteraceae).
References: J.: 1982, S. Sm. St.: 1992.
Locality: Vladimirci: Krnule.
Distribution: Euro-Siberian.
- * *Phegomyia fagicola* (Kieffer, 1901)
Host: *Fagus sylvatica* L. (Fagaceae).
Localities: Jastrebac; Kragujevac; Vrnjačka banja.
Distribution: European.
- Physemocecis hartigi* (Liebel, 1892)
Host: *Tilia cordata* Mill., *T. platyphyllos* Scop. (Tiliaceae).
References: S.: 1965, 1965a, 1968a; Sk. Sk.: 1964.
Distribution: European.
- Physemocecis ulmi* (Kieffer, 1909)
Host: *Ulmus canescens* Melville, *U. effusa* Willd., *U. minor* Mill.
(Ulmaceae).
References: J.: 1977, 1982.
Localities: Avala; Beograd: Vinča; Boljevc: Crni lug; Goč; Ljig; Mala
Moštanica: Žuto brdo; Progar: Bojčinska šuma; Stari Slankamen: Koševac;

Šid; Vrnjačka banja; Zaječar: Crni vrh.
Distribution: European.

Placochela nigripes (F. Löw, 1877)

Host: *Sambucus ebulus* L., *S. nigra* L., (Caprifoliaceae).
Reference: J.: 1977.
Localities: Beograd: Ritopek; Mačva: Radenković.
Distribution: European.

* ***Planetella fischeri*** (Frauenfeld, 1867)

Host: *Carex* sp. (Cyperaceae).
Locality: Zemun.
Distribution: European.

* ***Planetella gallarum*** (Rübsaamen, 1899)

Host: *Carex* sp. (Cyperaceae).
Localities: Novi Beograd; Zemun.
Distribution: European.

Putoniella pruni (Kaltenbach, 1872)

Host: *Prunus domestica* L., *P. spinosa* L. (Rosaceae).
References: B.: 1959; J.: 1982; P.: 1983; S.: 1965, 1978; Sk. Sk.: 1964.
Distribution: European. Widespread and very common. Pest.

* ***Rabdophaga degeri*** (Bremi, 1844)

Host: *Salix purpurea* L. (Salicaceae).
Localities: Srpski Miletić, Banovci.
Distribution: European.

Rabdophaga heterobia (Loew, 1850)

Host: *Salix* sp. (Salicaceae).
Reference: P.: 1983.
Localities: Novi Sad; Ritopek; Užice.
Distribution: Euro-Siberian.

* ***Rabdophaga iteobia*** (Kieffer, 1890)

Host: *Salix caprea* L. (Salicaceae).
Locality: Goč.
Distribution: Euro-Siberian.

Rabdophaga marginemtorquens (Bremi, 1847)

Host: *Salix alba* L., *S. cinerea* L. (Salicaceae).
References: P.: 1983; S.: 1965, 1968.
Localities: Boljevc: Crni lug; Jagodina; Vrbas; Zaječar; Zemun: Ušće.
Distribution: Euro-Siberian.

Rabdophaga rosaria (Loew, 1850)

Host: *Salix alba* L., *S. cinerea* L., *S. purpurea* L. (Salicaceae).
Reference: P.: 1983.
Localities: Beograd: Lipovačka šuma, Vinča; Čačak; Goč: Dobre vode;
Kosmaj; Niš; Stari Slankamen: Koševac; Vlasinsko jezero; Vrbas; Zemun.
Distribution: Euro-Siberian.

Rabdophaga saliciperda (Dufour, 1841)

Host: *Salix alba* L. and other related species (Salicaceae).

Reference: Ž. Va. To.: 1962.

Locality: Novi Beograd: Sava.

Distribution: Euro-Siberian.

***Rabdophaga salicis* (Schrank, 1803)**

Host: *Salix cinerea* L. (Salicaceae).

References: S.: 1968a, 1969.

Localities: Debeli lug; Novi Beograd; Stari Banovci; Vrbas.

Distribution: Euro-Siberian.

*** *Rabdophaga strobilina* (Bremi, 1847)**

Host: *Salix purpurea* (Salicaceae).

Locality: Vlasinsko jezero.

Distribution: European.

***Rabdophaga terminalis* (Loew, 1850)**

Host: *Salix alba* L., *S. fragilis* L., *S. triandra* L., *S. purpurea* L. (Salicaceae).

References: A.: 1965; P.: 1983; J.: 1977, 1982; S.: 1965, 1968a.

Localities: Avala; Beograd; Goč; Gornji Milanovac; Majdan; Ljig; Kosmaj;

Manastir Mileševo; Rudnik; Vrbas; Zaječar: Crni vrh.

Distribution: Euro-Siberian.

***Resseliella crataegi* (Barnes, 1939)**

Host: *Crataegus monogyna* Jack., *C. oxyacantha* L. (Rosaceae).

References: P.: 1983; S.: 1965, 1968a, 1969.

Distribution: European.

***Resseliella quercivora* (Mamaev in Mamaev and Krivosheina, 1965)**

Host: In maternal galleries of *Scolytus intricatus* Ratz. (Scolytidae) on

Quercus cerris L., *Q. farnetto* Ten., *Q. petraea* (Matt.) Liebl., *Q. virgiliana*

Ten. (Fagaceae).

Reference: Ma.: 1999.

Distribution: European. Potential pest.

***Resseliella theobaldi* (Barnes, 1927)**

Host: *Rubus idaeus* L. (Rosaceae).

References: S.: 1970, 1978.

Distribution: European. Potential pest.

***Rhopalomyia artemisiae* (Bouché, 1834)**

Host: *Artemisia campestris* L., *A. scoparia* W. K. (Asteraceae).

References: P.: 1983a; S. Sm. St.: 1992.

Localities: Deliblatska peščara: Devojački bunar; Stari Slankamen: Koševac;

Surduk; Vladimirci.

Distribution: sub-Mediterranean.

***Rhopalomyia baccarum* (Wachtl, 1883)**

Host: *Artemisia vulgaris* L. (Asteraceae).

References: P.: 1983a; T.: 1903.

Localities: Novi Beograd; Zemun.

Distribution: Euro-Siberian.

Rhopalomyia florum (Kieffer, 1890)

Host: *Artemisia vulgaris* L. (Asteraceae).

Reference: S. Sm. St.: 1992.

Distribution: Euro-Siberian.

Rhopalomyia foliorum (Loew, 1850)

Host: *Artemisia vulgaris* L. (Asteraceae).

References: J.: 1982; Sk. Sk.: 1964; S. Sm. St.: 1992.

Locality: Boljevc: Crni lug.

Distribution: Euro-Siberian.

Rhopalomyia millefolii (Loew, 1850)

Host: *Achillea millefolium* L. (Asteraceae).

References: S.: 1968a; S. Sm. St.: 1992.

Distribution: Euro-Siberian.

Distribution: European.

* ***Rhopalomyia tanaceticola*** (Karsch, 1879)

Host: *Tanacetum vulgare* L. (Asteraceae).

Localities: Vladimirci: Krnule; Mala Moštanica: Žuto brdo.

Distribution: European.

Rhopalomyia tripleurospermi Skuhrová & Hinz, 2000

Host: *Tripleurospermum perforatum* (Mérat) Lainz (Asteraceae).

Reference: S. Sm. St.: 1992.

Distribution: European, introduced to North America as biological agent against weed.

Rhopalomyia tubifex (Bouché, 1847)

Host: *Artemisia maritima* L. (Asteraceae).

Reference: P.: 1983a.

Distribution: sub-Mediterranean.

Rhopalomyia sp. Thomas, 1893

Host: *Artemisia vulgaris* L. (Asteraceae).

Reference: S. Sm. St.: 1992.

Locality: Grocka: Vrčin.

Rondaniola bursaria (Bremi, 1847)

Host: *Glechoma hederacea* L. (Lamiaceae).

References: J.: 1982; T.: 1903.

Localities: Avala; Beograd: Košutnjak, Topčiderski park; Boljevc: Crni lug.

Distribution: European.

Sackenomyia reaumurii (Bremi, 1847)

Host: *Viburnum lantana* L. (Caprifoliaceae).

References: J.: 1982; S.: 1968a.

Localities: Beograd: Petrovčić; Fruška gora; Ljig; Stari Slankamen: Koševac; Zaječar: Crni vrh.

Distribution: European.

Schizomyia galiorum Kieffer, 1889

Host: *Galium aparine* L., *G. mollugo* L., *G. verum* L. (Rubiaceae).

References: J.: 1982; P.: 1983a; S. Sm. St.: 1992.

Localities: Beograd: Lipovačka šuma; Debeli lug; Fruška gora: Stražilovo;

Mačva: Radenković; Šid.

Distribution: Euro-Siberian.

Semudobia betulae (Winnertz, 1853)

Host: *Betula pendula* Roth. (Betulaceae).

References: J.: 1982; S. Mi. Vi.: 1982..

Distribution: Euro-Siberian - Holarctic. Very common.

Semudobia skuhravae Roskam, 1977

Host: *Betula pendula* Roth. (Betulaceae).

Reference: S. Mi. Vi.: 1982.

Distribution: Euro-Siberian. Very common.

Semudobia tarda Roskam, 1977

Host: *Betula pendula* Roth. (Betulaceae).

Reference: S. Mi. Vi.: 1982.

Distribution: Euro-Siberian.

Sitodiplosis mosellana (Géhin, 1856)

Host: *Triticum vulgare* L. (Poaceae).

References: B.: 1957; S.: 1965, 1965a, 1968a; S. Vu.: 1990.

Distribution: Holarctic. Widespread and very common on *Triticum vulgare* L.

Potential pest.

Spurgia capitigena (Bremi, 1847)

Host: *Euphorbia cyparissias* L. (Euphorbiaceae).

References: J.: 1977, 1982; Pal.: 1983; S.: 1968a; S. Sm. St.: 1992.

Distribution: European. Widespread in Serbia; very common.

* ***Stefaniella atriplicis*** Kieffer, 1898

Host: *Atriplex patula* L. (Chenopodiaceae).

Localities: Novi Beograd; Obedska bara; Zemun.

Distribution: sub-Mediterranean.

* ***Stefaniella brevipalpis*** Kieffer, 1898

Host: *Atriplex patula* L. (Chenopodiaceae).

Localities: Beograd; Novi Beograd; Zemun.

Distribution: sub-Mediterranean.

* ***Stefaniella cecconii*** Kieffer, 1909

Host: *Atriplex patula* L. (Chenopodiaceae).

Localities: Boljevi: Crni lug; Novi Beograd; Obedska bara; Zemun.

Distribution: sub-Mediterranean.

Thecodiplosis brachyntera (Schwägrichen, 1835)

Host: *Pinus sylvestris* L. (Pinaceae).

Reference: S.: 1968a.

Localities: Goč; Jastrebac; Zlatibor.

Distribution: Euro-Siberian. Potential pest.

* ***Thurauia aquatica*** Rübsaamen, 1899

Host: *Carex* sp. (Cyperaceae).

Locality: Zemun.

Distribution: European.

***Tricholaba trifolii* Rübsaamen, 1917**

Host: inquiline in the galls of *Dasineura trifolii* (F. Löw) on *Trifolium repens* L. (Fabaceae).

Reference: S.: 1976.

Distribution: Euro-Siberian.

* ***Wachtliella ericina* (F. Löw, 1885)**

Host: *Erica carnea* L. (Ericaceae).

Localities: Goč; Srebrenica.

Distribution: sub-Mediterranean.

***Wachtliella persicariae* (Linné, 1767)**

Host: *Polygonum amphibium* L., *P. lapathifolium* L., *P. persicaria* L. (Polygonaceae).

References: P.: 1983a; S.: 1968a; S. Sm. St.: 1992; S et al: 1996a.

Distribution: European.

* ***Wachtliella riparia* (Winnertz, 1853)**

Host: *Carex* sp. (Cyperaceae).

Locality: Zemun: Ušće.

Distribution: European.

***Wachtliella rosarum* (Hardy, 1850)**

Host: *Rosa canina* L. and the other species of the genus *Rosa* (Rosaceae).

References: J.: 1977, 1982; S.: 1968a; Sk. Sk.: 1964.

Distribution: European. Widespread and quite common.

* ***Wachtliella stachydis* (Bremi, 1847)**

Host: *Stachys palustris* L., *S. silvatica* L. (Lamiaceae).

Localities: Beograd: Radmilovac; Mačva: Radenković; Obedska bara; Vladimirci: Krnule; Zemun: Surčin.

Distribution: European.

***Zeuxidiplosis giardi* (Kleffer, 1896)**

Host: *Hypericum perforatum* L. (Hypericaceae).

Reference: S. Sm. St.: 1992.

Localities: Barajevo: Vranić; Goč: Dobre vode; Kragujevac: Ralja; Zaječar; Zrenjanin: Perleska bara.

Distribution: European, secondarily Holarctic.

***Zygiobia carpini* (F. Löw, 1874)**

Host: *Carpinus betulus* L. (Corylaceae).

References: J.: 1977, 1982; S.: 1968a; Sk. Sk.: 1964; T.: 1903.

Distribution: European. Widespread and quite common.

Galls of unidentified gall midge species

Anchusa officinalis L. (Boraginaceae) – flower bud galls.

Localities: Čortanovci, Novi Beograd, Zemun.

Chelidonium maius L. (Papaveraceae) – flower bud galls.

Localities: Beograd: Ritopek, Vršачki breg, Zemun.

Consolida regalis S. F. Gray. (Ranunculaceae) – malformed inflorescence.

Locality: Vladimirci.

Galega officinalis L. (Fabaceae) – folded leaflet.

Localities: Beograd: Galovica, Perleska bara: Tiganjka.

Galium aparine L. (Rubiaceae) – shortened internodes.

Locality: Paraćin: Grza.

Geum rivale L. (Rosaceae) – pustule gall on leaves.

Locality: Beograd: Galovica.

Lactuca serriola L. (Cichoriaceae) – flower bud galls.

Localities: Vladimirci: Krnule, Zemun.

Lycopus exaltatus L. (Lamiaceae) – flower bud galls.

Localities: Beograd: Galovica, Vrnjačka banja

Lycopus europaeus L. (Lamiaceae) – flower bud galls.

Locality: Boljevc: Crni lug

Mentha longifolia (L.) Huds. (Lamiaceae) – terminal leaf bud galls.

Localities: Beograd: Radmilovac, Beograd: Vinča, Mala Moštanica: Žuto brdo, Vladimirci: Krnule, Vranić.

Nonnea pulla (L.) DC. (Boraginaceae) – flower bud galls.

Locality: Čortanovci.

Pedicularis comosa L. (Scrophulariaceae) – malformed inflorescence and swollen flower buds.

Locality: Rajac.

Phragmites australis (Cav.) Trin. (Poaceae) – seed galls.

Localities: Mačva: Radenković, Sremska Mitrovica, Šimanovci.

Picris hieracioides L. (Cichoriaceae) – in flower head and seeds.

Locality: Zemun: Novi grad.

Pulmonaria sp. (Boraginaceae) – flower bud galls.

Locality: Zemun: Surčin

Quercus cerris L. (Fagaceae) – undeveloped fruit.

Locality: Kosmaj.

Salvia verticillata L. (Lamiaceae) – flower bud galls.

Localities: Batoški rit, Čortanovci, Krnule, Novi Beograd, Šimanovci, Vladimirci, Vršачki breg, Zemun.

Satureia sp. (Lamiaceae) – terminal leaf galls.

Locality: Vršачki breg.

Scrophularia nodosa L. (Scrophulariaceae) – pustule leaf galls.

Locality: Goč: Dobre vode.

Silene otites (L.) Sm. (Caryophyllaceae) – terminal and lateral leaf bud galls, densely haired.

Localities: Deliblatska peščara: Devojački bunar, Novi Beograd, Vladimirci.

Silene vulgaris L. (Caryophyllaceae) – terminal leaf gall.

Locality: Avala.

Spiraea chamaedryfolia L. (Rosaceae) – terminal leaf bud galls and rolled up leaves.

Locality: Tara: Crvene stene.

Stipa joanis Čelak. (Poaceae) – slightly swollen seeds.

Locality: Rajac.

Teucrium sp. (Lamiaceae) – flower bud galls.

Locality: Goč: Dobre vode.

ZOOGEOGRAPHY

From the zoogeographical point of view, gall midges occurring in Serbia may be divided, according to their overall distribution over the Palaearctic region and over the world, into five groups: European, Euro-Siberian, sub-Mediterranean, Mediterranean and Holarctic species. About 171 species (59%) belong to European, about 70 species (23%) to Euro-Siberian, about 30 species (12%) to sub-Mediterranean and Mediterranean and 17 species (6%) to Holarctic species.

All gall midge species occurring in Serbia, with one exception, are indigenous to the Palaearctic Region. Only *Dasineura gleditchiae* is a native Nearctic species which has been accidentally introduced to Europe, probably with nursery stocks. Galls on *Gleditsia triacanthos* were found in Serbia for the first time in 1993 (SIMOVA-TOŠIĆ & SKUHRAVÁ, 1995).

The European gall midge species are restricted to Europe. Typical representatives in Serbia are, for example, *Hartigiola annulipes* and *Mikiola fagi* on *Fagus sylvatica*, *Dasineura tympani* on *Acer campestre*, *Physemocercis ulmi* on *Ulmus* spp. and *Jaapiella veronicae* on *Veronica chamaedrys*. The Euro-Siberian species occupy large areas extending from Europe to Western, Middle or even Eastern Siberia. The typical representatives in Serbia are, for example, *Contarinia tiliarum* on *Tilia* spp., *Rabdophaga rosaria* and *R. terminalis* on *Salix* spp. Holarctic species occur in northern parts of the Palaearctic and the Nearctic Regions. Sixteen gall midge species which occur in Serbia have such a distribution: *Aphidoletes aphidimyza* and *A. urticae*, *Asphondylia miki* and *Contarinia medicaginis* on

Medicago, *Contarinia pyrivora*, *Dasineura pyri* and *D. mali* on fruit crops, *Contarinia tritici*, *Mayetiola destructor* and *Sitodiplosis mosellana* on cereal crops, *Monarthropalpus flavus*, *Contarinia rumicis*, *Dasineura trifolii*, *Ozirhincus millefolii*, *Semudobia betulae* and *Zeuxidiplosis giardi*. The majority of them are indigenous in Europe and where transferred to the Nearctics with their host plants (or seed), *Zeuxidiplosis giardi* is a biological agent used against *Hypericum* spp. in other zoogeographical regions of the world.

The most interesting zoogeographical group has centres of distribution in the Mediterranean and occur in the Pannonian Province in northern Serbia. About thirty gall midge species occur in the lowlands of the Pannonian Province (Danubian Steppe) in Hungary and in the northern part of Serbia. Pannonian Province is covered with rich vegetation including many plant species originating from areas around the Black Sea and Mediterranean Sea which are host plants of several interesting gall midge species. Eleven species may be considered to be true Mediterranean species: *Contarinia coronillae* and *C. istriana*, causing galls on *Coronilla emerus*, and nine gall midge species associated with *Quercus cerris*, viz. *Contarinia quercicola*, *C. subulifex*, *Dasineura tubularis*, *Dryomyia circinans*, *Janetia cerris*, *J. homocera*, *J. nervicola*, *J. pustularis* and *J. szepligetii*. Other gall midge species belonging to this group may be considered to be sub-Mediterranean. They have centres of occurrence in areas along the Mediterranean Sea but they extend to middle Europe and some species even up to northern Europe.

Four gall midge species are very interesting from the zoogeographical point of view: *Kochiomyia kochiae*, *Oligotrophus szepligetii*, *Neomikiella lychnidis* and *Zeuxidiplosis giardi*. *Kochiomyia kochiae*, causing galls on *Kochia prostrata*, is a typical Pontic-Pannonian species. It occurs at many localities in the Pannonian lowland in Hungary (SKUHRÁVÁ & SKUHRÁVÝ, 1999), and is spread up to the coast of the Black Sea in Bulgaria, Rumania and Russia (Crimea). *Oligotrophus szepligetii* causing galls on *Acer tataricum*, is a Pannonian species, occurring relatively abundantly in the Pannonian Province in Hungary and in lowlands of the northern part of Serbia (Vojvodina), as well as in other parts of Serbia where *Acer tataricum* is present. It seems that distribution of *O. szepligetii* depends on distribution of its host plant. *Neomikiella lychnidis*, causing large, white hairy leaf bud galls on *Melandrium album*, occurs abundantly in the Pannonian Province of Hungary and northern Serbia. The boundary of its distribution area runs along the most southern boundary of the Czech and Slovak Republics (SKUHRÁVÁ, 1991, 1994). This species occurs at several localities situated in areas north of this line but only at isolated islands of occurrence in lowlands (in planare zone). Therefore, *N. lychnidis* is a Pannonian and planare species. *Zeuxidiplosis giardi* is a gall midge species with disjunct distribution. Although its host plant, *Hypericum perforatum*, is very common and galls of other gall midge species, *Dasineura hyperici*, associated with this host plant occur very frequently, galls of *Zeuxidiplosis giardi*

rdi occur only scarcely and in isolated islands (SKUHRÁVÁ *et al.*, 1984).

Frequency of occurrence

Gall midge species found in Serbia may be divided into four frequency groups according to the number of localities where they were found. The first frequency group includes the majority of gall midge species which were found at only one, two or three localities. Such species may be designated as scarce species, as for example *Ametrodiplosis auripes*, *Asphondylia massalongoi* and *Planetella gallarum*. The second frequency group includes species the galls of which were found at several (four to nine) localities; such species may be designated as moderately occurring species, for example *Acodiplosis inulae*, *Craneiobia corni* and *Zeuxidiplosis giardi*. The third frequency group includes species the galls of which were found at ten to thirteen localities; they may be designated as abundant species, for example *Contarinia tiliarum*, *Jaapiella veronicae* and *Oligotrophus szepligetii*. The fourth frequency group includes 26 commonly occurring species in Serbia. Such information is included at the end of the entry for each species in the List of species.

ECONOMIC IMPORTANCE

During the 20th century, eleven species were recorded as pests of cultivated plants in Serbia (SIMOVA-TOŠIĆ, 1968a, 1969a; SIMOVA-TOŠIĆ, DOBRIVOJEVIĆ, 1966, 1981; VASILJEVIĆ *et al.*, 1991). Three of them are pests of cereal crops, three are pests of a fodder crop (lucerne) and one species is a pest of a fruit crop - plum. Damage caused by these species appeared in Serbia for the first time several years after the second world war, in 1948, and their negative influence lasted about ten years. Then their economic importance gradually declined and since that time only gall midge species associated with lucerne cause damage continuously. On cereal crops, serious damage caused by *Mayetiola destructor* was recorded in Serbia for the first time in 1948 (MARTINOVIĆ & BJEGOVIĆ, 1949) and several years later damage by *Contarinia tritici* (JEREMIĆ, 1954, HADŽISTEVIĆ, 1955, BJEGOVIĆ, 1957). *Haplodiplosis marginata* (*H. equestris*) caused severe damage in 1957 in southern Serbia (Vlasina) where the loss of yield was 80-90 % (BJEGOVIĆ, 1957).

Fodder crops, which are economically very important in Serbia, are damaged seriously by *Asphondylia miki*, *Dasineura medicaginis* and *Contarinia medicaginis*. Damage appeared firstly in 1948 (MARTINOVIĆ & BJEGOVIĆ, 1949). Gall midges are very important as pests of lucerne planted for seed production in the eastern part of Serbia (Timočka Kraina) and were the subject of study of long-term population dynamics in the period 1970-1985 (PETROVIĆ 1985, 1988).

On fruit trees, damage caused by *Putoniella pruni* (*P. marsupialis*) on plums (*Prunus domestica*) was observed for the first time in 1958 (BJEGOVIĆ, 1959); *Lasioptera rubi* was recorded as a pest in the main raspberry production area (SIMOVA- TOŠIĆ, DOBRIVOJEVIĆ, 1966). Damage caused by *Contarinia pyrivora* (SIMOVA- TOŠIĆ, 1968a) and *Dasineura pyri* (SIMOVA-TOŠIĆ, 1969a) was observed in many localities in Serbia. Great damage caused by *Dasineura tetensi* on black-currant was also recorded in many localities (SIMOVA-TOŠIĆ, DOBRIVOJEVIĆ, 1981).

About thirty gall midge species the galls of which were found in Serbia in low abundance may be considered to be potential pests of agriculture and in forests.

On the other hand, four members of the Serbian gall midge fauna are beneficial insects. One of them, *Aphidoletes aphidimyza*, larvae of which attack aphids and may be used in the biological control of aphids, is the subject of recent studies (VUKOVIĆ, 1999). Three species, viz. *Zeuxidiplosis giardi*, *Cystiphora sonchi* and *Rhopalomyia tripleurospermi* are used in biological control of weeds in various parts of the world, the last species recently used in Canada (SKUHRÁVÁ & HINZ, 2000).

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МУВЕ ГАЛИЦЕ (DIPTERA: CECIDOMYIIDAE) СРБИЈЕ

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И з в о д

Садашња фауна мува галица Србије обухвата 283 врсте од којих су 98 нове за фауну Србије. Највећи део (59%) су Европске, 23% су Еуро-Сибирске, 12% Суб-Медитеранске и Медитеранске, а 17% су Холарктичке. *Contarinia coronillae*, *C. istriana*, које изазивају гале на *Coronilla emerus* и девет врста које се развијају на *Quercus cerris* и то: *Contarinia quercicola*, *C. subulifex*, *Dasineura tubularis*, *Dryomyia circinans*, *Janetia cerris*, *J. homocera*, *J. nervicola*, *J. pustularis* и *J. szepligeti* су праве Медитеранске врсте. *Oligothrophus szepligetii* која изазива гале на *Acer tataricum* је Панонска врста; *Kochiomyia kochiae* изазвач гала на *Kochia prostrata* је Понто-Панонска врста, а *Neomykiella lychnidis* која се развија на *Melandrium album* је Панонска и равничарска врста. *Zeuxidiosis giardi* која изазива гале на *Hypericum perforatum* је Европска врста са дисјунктним ареалом. Једанаест врста су штеточине гајених биљака и то: *Contarinia tritici*, *Haplodiplosis marginata* и *Mayetiola destructor* на житима; *Asphondylia miki*, *Contarinia medicaginis* и *Dasineura medicaginis* на крмном биљу (луцерка); *Contarinia pyrivora*, *Dasineura pyri*, *D. tetensi*, *Putoniella pruni* и *Lasioptera rubi* на воћкама. Око тридесетак врста могу се сматрати потенцијалним штеточинама на пољопривредним и шумским културама. Четири врсте припадају групи корисних инсеката и то: *Aphydoletes aphidimyza* која се користи у биолошкој борби против лисних ваши у Србији; *Zeuxidiplosis giardi*, *Cystiphora sonchi* и *Rhopalomyia tripleurospermi* које се користе у биолошкој борби против корова у другим деловима света.

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