

## Faunistic Survey of Czechoslovak Species of the Genera *Lysiphlebus* Förster and *Trioxys* Haliday

(Hymenoptera: Aphidiidae)

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The purpose of this account is to give a survey of the species of the aphidiid genera *Lysiphlebus* Förster and *Trioxys* Haliday of Czechoslovakia. As comprehensive studies on the European fauna of both the cited genera have been lately published keys to the species are omitted, however, some records and synonymy used in the quoted papers are corrected in this paper.

The whole account is based only on specimens that were personally examined by the author. All the records are original while the literary data are quoted separately. All the material mostly collected by the author is deposited in the author's collection except where otherwise stated.

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### Genus: *Lysiphlebus* Förster

This genus is accepted in the broader sense, i. e. there are included species in which interr radial vein and rest of median vein are lacking in the fore wing (see Starý, 1960, 1961).

Habitat: Species of this genus are mainly occurring in various field habitats in Czechoslovakia. There are only few exceptions: *L. ambiguus* (Hal.) prefers parks, deciduous and mixed forests. *L. thelaxis* Starý is typical species of deciduous (oak) and mixed forests.

Host-specificity: Similarly as in other groups of *Aphidiidae* the species of *Lysiphlebus* may be divided in three groups:

Monophagous [e. g. *L. fritzmuelleri* Mack., *L. hirticornis* Mack.]

Oligophagous [e. g. *L. ambiguus* (Hal.)]

Polyphagous [e. g. *L. fabarum* (Marsh.)]

The greatest part of *Lysiphlebus* — species are parasites of aphids of the family *Aphididae*, rarely of *Chaitophoridae*, *Thelaxidae* and *Eriosomatidae*.

### **L. ambiguus** (Haliday 1834)

General distribution: Europe, N. Africa.

Hosts and material examined in Czechoslovakia:

*Aphidula farinosa* (Gmel.): Praha, Botanical garden of the Charles University, on *Salix* sp., *Salix repens rosmarinifolia* Wimm., in a park (20. VI. 1957, 1. VII. 1959, 25. VI. 1960, 30. VII. 1960, 6. VII. 1960, 15. VI. 1960). Čelákovice, on *Salix* sp., (14. VI. 1957). Žel. Brod, on *Salix* sp., near a brook, forest habitat (1. VII. 1960). Těchobuz, env. Pacov, on *Salix* sp., field habitat (VIII. 1960). △ Hostýn — env., on *Salix* sp., (VII. 1957).

*Aphidula urticata* (F.): Čremošná, env. Turč. Teplice, on *Urtica dioica* L., near a brook (19. V. 1959).

*Aphis fabae* Scop.: Praha, Botanical garden, on *Eryngium planum* L. (2. VII. 1959).

*Aphis podagrariae* Schrk.: Čelákovice, on *Aegopodium podagraria* L. (14. VI. 1957).

*Hydaphias* sp.: Strážnice, on *Galium mollugo* L., in a meadow (6. VI. 1960).

Host-specificity: Oligophagous. *Aphididae*, subf. *Aphidinae* (*Aphis*, *Aphidula*) and subf. *Myzinae* (*Hydaphias*).

Host-preference: *Aphidula farinosa* (Gmel.)

Habitat: Mixed forests, gardens, meadows. Common.

### **L. arvicola** Starý 1961

General distribution: Europe (Czechoslovakia). U. S. S. R. (Tajikistan).

Hosts and material examined in Czechoslovakia:

*Rungia*, sp.: Karlštejn, on *Agropyrum repens* (L.), stony limestone habitat, hillside (27. V. 1960).

Host-specificity: ? Monophagous. *Chaitophoridae*, subf. *Siphinae* (*Rungia*)

Habitat: Probably meadows, fields, orchards.

### **L. dissolutus** (Nees 1811) sensu Förster 1862

General distribution: Europe (Germany, England, Sweden, Hungary, Czechoslovakia).

Material examined in Czechoslovakia:

Filipova Huť, Šumava, mountain meadow at about 1000 m alt. (24. VI. 1959). Černá Hora, Krkonoše, grassy undergrowth with *Vaccinium* in spruce forest (9. VII. 1959). Hlavenec, env. Brandýs n./L., undergrowth of spruce forest (VI. 1960, lgt. Martinek). Lipt. Sv. Mikuláš (V. 1912, lgt. Biró, coll. Mus. Nat. Hung.).

Habitat: Submountain and mountain meadows, undergrowth of spruce forests.

### **L. fabarum** (Marshall 1896)

General distribution: Europe, S. Africa, Central Asia.

Hosts and material examined in Czechoslovakia:

*Aphidula urticata* (F.): Kokořín, on *Urtica dioica* L. (9. VI. 1958, lgt. Holman). Liběchov, on *Urtica dioica* L., in a meadow (24. VI. 1957). Písek, on *Urtica dioica* L., grassy vegetation under *Alnus* (26. VI. 1959). Královský Chlumec, on *Urtica dioica* L., near highway (1. VI. 1960).

*Aphidula* sp.: Praha, Botanical garden, on *Frangula alnus* Mill. (VI. 1957).

*Aphis evonymi* F.: Jičín, on *Solanum nigrum* L. (19. VII. 1959, lgt. Holman).

*Aphis fabae* S c o p.: Praha, Botanical garden of the Charles University, on *Carduus crispus* L., *Amaranthus retroflexus* L., *Cirsium* sp., *Dahlia variabilis* (Willd.), *Carduus* sp., *Rumex crispus* L., *Matricaria maritima* L., *Chenopodium album* L., *Matricaria discoidea* D. C., *Beta vulgaris* L., *Campanula rapunculoides* L., *Arctium* sp. (25. VII. 1956, 8. VI. 1957, 16. VII., 28. VII. 1958, 26. VI., 1. VII., 4. VII., 21. VII., 1959, 16. VI., 24. VI., 29. VI. 1960). Praha-Sárka, on *Beta vulgaris* L., field (17. VI. 1957). Praha-Nehvizdy, on *Beta vulgaris* L., field (VII. 1956). Praha-Kinského sady, on *Cirsium* sp. (16. VII. 1957). Praha-Olšany, on *Arctium* sp. (13. VII. 1953). Praha-Střešovice, on *Arctium* sp. (VII. 1953, lgt. Hodek). Praha-Seminářská zahrada, on *Cirsium arvense* L., in a park (22. VII. 1956). Zadní Třebáň, on *Beta vulgaris* L., field (29. V., 19. VI., 6. VII. 1959), on *Cirsium arvense* L. (17. VII. 1959), on *Arctium lappa* L. (6. VII. 1959). Trněný Újezd, on *Beta vulgaris* L. (26. VII. 1960). Karlštejn, on *Chenopodium bonus-henricus* L., field habitat (12. VI. 1957), on *Arctium lappa* L. (2. VIII. 1958). Srbsko, on *Cirsium arvense* L., edge of corn field (26. VII. 1960). Mořina, on *Chenopodium* ? *album* L., in a balk in fields (26. VII. 1960). Čelákovice, on *Beta vulgaris* L., field (14. VI. 1959). Mnichovo Hradiště, on *Beta vulgaris* L., field (2. VII. 1957). Brandýs n./L., on *Beta vulgaris* L., field (2. VII. 1957). Lysá n./L., on *Cirsium* sp., in a meadow (20. VIII. 1957), on *Calendula officinalis* L. (VIII. 1957). Český Brod, on *Arctium lappa* L., edge of park near fields (28. VII. 1960). Tuklaty, on *Beta vulgaris* L., field (28. V. 1959). Louny, on *Beta vulgaris* L., field (18. VI. 1957). Roudnice, on *Beta vulgaris* L., field (VI. 1956, lgt. Láška). Turnov, on *Beta vulgaris* L., field (2. VII. 1957). Terežín, on *Beta vulgaris* L., field (25. VI. 1957). Prackovice, on *Beta vulgaris* L., field (25. VI. 1957). Býčkovice, env. Litoměřice, on *Beta vulgaris* L., field (24. VI. 1957). Vysoké Chvojno, on *Beta vulgaris* L., field (7. VII. 1958). Dubí Hora, on *Cirsium arvense* L., in a meadow (23. VII. 1959). Český Krumlov, on *Cirsium arvense* L., in a meadow (VIII. 1957, lgt. Holman). Komárov, on *Euonymus europaea* L., mixed forest near fields (24. VII. 1958). Horská Kvilda, Šumava, on *Cirsium palustre* Scop., long-fallow land (12. VIII. 1958), Rabštejn, valley of the river Střela, on *Cirsium* sp., in a meadow (VIII. 1956). Bystřice p./Hostýnem, on *Beta vulgaris* L., field (VII. 1957). Pouzdřany, on *Beta vulgaris* L., *Cirsium arvense* L., field (4. VI. 1960). Strážnice, on *Chenopodium* sp., grassy ditch (6. VI. 1960). Senec, on *Beta vulgaris* L., field (8. IX. 1953, lgt. Bouček).

*Aphis rumicis* L.: Praha, Botanical garden, on *Rumex* sp., in a park (29. VI. 1960), on *Rumex crispus* L. (8. VI. 1957). Dobřichovice, on *Rumex* sp., in a meadow (26. VII. 1960). Adamov, on *Rumex* sp., hillside, forest and meadow (3. VI. 1960).

*Aphis* spp.: Praha, Botanical garden, on *Anthemis maczygia*, in a park (18. VII. 1960), on *Torilis japonica* (Houtt.) (1. X. 1957), on *Impatiens parviflora* DC. (26. VI. 1959), on *Anthemis sancti-johannis* (18. VII. 1960), on *Achillea ptarmica* (18. VII. 1960), on *Arnica sachaliensis* (18. VII. 1960). Orlík, on *Cirsium* sp., in a meadow (26. VI. 1959). Kováčov, on *Fagopyrum convolvulus* [L.] (31. VII. 1960, lgt. Holman).

*Appelia tragopogonis* (K a l t.): Čelákovice, on *Tragopogon pratense* L., in a meadow (14. VI. 1957). Prackovice, on *Tragopogon pratense* L., balk (25. VI. 1957).

*Brachycaudus cardui* [L.]: Praha, Botanical garden, on *Carduus crispus* L. (18. VII. 1959, lgt. Holman), on *Arctium* sp. (15. VI. 1959). Praha-Zlíchov, on *Carduus* sp. (24. VII. 1957, lgt. Hanzáková). Zadní Třebáň, on *Arctium lappa* L., in a meadow (17. VIII. 1959). Český Brod, on *Arctium lappa* L., edge of a park near fields (28. VII. 1960). Raná, Louny — env., on *Carduus* sp., steppe with *Stipa* (22. VII. 1958). Bystřice u Benešova, on *Carduus* sp. (VIII. 1956). Sušice, on *Carduus nutans* L., limestone rock near a highway (12. VIII. 1958). Vochoň, Plzeň — env., on *Matricaria maritima* L., field habitat (19. VII. 1956). Kováčov, on *Carduus crispus* L., field habitat (10. V. 1957). Král. Chlumeč, on *Prunus spinosa* L., in bushes in wood-steppe (1. VI. 1960).

*Brachycaudus rumicicolens* (P a t c h): Praha, Botanical garden, on *Rumex acetosella* L. (2. VII. 1959). Doksy, on *Rumex acetosella* L. (5. VII. 1959, lgt. Holman).

*Brachycaudus* spp.: Praha, Botanical garden, on *Matricaria* sp. (29. VI. 1960), on *Tanacetum* (1. X. 1957, lgt. Holman), on *Persica vulgaris* Mill. (7. VII. 1960). Raná, Louny — env., on *Carduus acanthoides* L. (22. VII. 1958, lgt. Holman).

*Cerosipha polygonata* (N e v s.): Jičín, on *Fagopyrum convolvulus* [L.] (28. VI. 1959).

*Cerosipha poterii* C B: Karlštejn, on *Sanguisorba minor* Scop. (19. V. 1960).

*Cerosipha roepkei* H R L: Valdice, on *Potentilla reptans* L. (17. VI. 1959, lgt. Holman).

*Cerosipha verbasci* (Schrk.): Praha, Botanical garden, on *Verbascum austriacum* Schott. (1. VII. 1959).

*Cerosipha* sp.: Malacky, on *Galeopsis speciosa* Mill. (10. IX. 1958, lgt. Holman).

*Chomaphis* sp.: Praha-Jinonice, on *Arctium lappa* L. (VIII. 1956).

*Hyperomyzus lactucae* (L.): Praha, Botanical garden, on *Sonchus oleraceus* L. (4. VII. 1959).

*Paczoskia major* C B: Levice, on *Echinops sphaerocephalus* L. (13. X. 1958, lgt. Holman).

*Pemphigus* sp.: Malacky, on *Helichrysum arenarium* (L.) (11. IX. 1958).

*Pergandeida intybi* (Koch): Zadní Třebáň, on *Cichorium intybus* L., in a meadow near sugar-beet field (17. VII. 1959). Nitra, on *Cichorium intybus* L., field (9. VII. 1957).

*Pergandeida ? euphorbiae* (Kalt.): Terchová, M. Fatra, on *Euphorbia cyparissias* L., submountain pasture (14. VIII. 1960).

*Pergandeida cytisorum* (Htg.): Praha, Botanical garden, on *Laburnum anagyroides* Medik. (5. VII. 1957).

*Pergandeida craccivora* (Koch): Radějov, on *Medicago sativa* L., balk in fields (8. VI. 1960).

*Pergandeida salviae* (Walk.): Jičín, on *Salvia pratensis* L., in a meadow (VII. 1956, lgt. Holman). Radějov, on *Salvia pratensis* L., balk in fields (8. VI. 1960).

*Pergandeida* spp.: Praha, Botanical garden, on *Medicago sativa* L., (17. VII. 1959), on *Eryngium* sp. (6. VII. 1959). Korno, on *Onobrychis viciaefolia sativa*, in a ditch near a highway (23. V. 1960). Raná, Louny — env., on *Eryngium* sp., steppe with *Stipa* (18. VI. 1957, lgt. Holman). Louny, on *Eryngium campestre* L. (20. V. 1960). Těchobuz, Pacov — env., on *Vicia* sp. (21. VIII. 1958). Radějov, on *Onobrychis viciaefolia sativa* Thell., balk in fields (8. VI. 1960). Malý Kamenec, on *Onobrychis viciaefolia sativa* Thell., ditch in fields (1. VI. 1960).

*Protaphis carlinae* (C B.): Doksy, on *Carlina acaulis* L. (17. VIII. 1960, lgt. Holman).

*Rhopalosiphon nymphaeae* (L.): Praha, Botanical garden, on *Ranunculus* sp., in a park (4. VIII. 1958).

*Sitobium avenae* (Fabr.): Bílý Kostel, on *Festuca* sp. (9. VIII. 1960, lgt. Holman).

*Toxoptera lambersi* (C B.): Jičín, on *Daucus carota* L., in a meadow (19. VII. 1959, lgt. Holman). Levice, on *Daucus carota* L., in a meadow (5. V. 1960).

*Toxoptera plantaginis* (Goetze): Všeňany, on *Plantago media* L. (12. VI. 1959, lgt. Holman). Raná, Louny, on *Plantago media* L. (18. VI. 1957). Hostýn, on *Plantago media* L., near a highway (VII. 1957).

*Toxoptera taraxacicola* (C B.): Praha, Botanical garden, on *Taraxacum officinale* Web. (18. VI. 1959, lgt. Holman).

*Toxoptera vandergooti* C B.: Mohelno, on *Achillea millefolium* L. (5. VI. 1960).

**Host-specificity:** Widely polyphagous. *Aphididae*, subf. *Aphidinae* (*Rhopalosiphon*; *Aphidula*, *Aphis*, *Cerosipha*, *Pergandeida*, *Protaphis*, *Toxoptera*), subf. *Anuraphidinae* (*Chomaphis*; *Appelia*, *Brachycaudus*), subf. *Myzinae* (*Hyperomyzus*), subf. *Dactynotinae* (*Sitobium*; *Paczoskia*), and *Eriosomatidae*, subf. *Pemphiginae* (*Pemphigus*).

**Host-preference:** *Aphidula urticata* (F.), *Aphis fabae* Scop., *Aphis rumicis* L., *Appelia tragopogonis* (Kalt.), *Brachycaudus cardui* (L.), *Pergandeida intybi* (Koch), *Pergandeida craccivora* (Koch), *Pergandeida salviae* (Walk.), *Toxoptera plantaginis* (Goetze).

**Habitat:** Orchards, fields, meadows, pastures, balks, long-fallow lands.

**Literary data.** As the reliability of the literary data is questionable they are included in a separate paragraph.

*Aphidula urticata* F.: Nová Říše, on *Urtica urens* L. Uherské Hradiště, on *Urtica dioica* L. (Quilis M. P., 1934, Baudyš, 1941).

*Aphidula farinosa* (Gmel.): Hlučín, on *Salix caprea* L. (Quilis M. P., 1934, Baudyš, 1941).

*Aphis fabae* Scop.: Czechoslovakia (Dragoun, 1934).  
*Hayhurstia atriplicis* L.: Lipník n./B., on *Chenopodium vulvaria* L. (Quilis M. P., 1934, Baudyš, 1941).

#### **L. fritzmuelleri** Mackauer 1960

General distribution: Europe (Germany, Czechoslovakia, European part of U. S. S. R., Hungary).

Hosts and material examined in Czechoslovakia:

*Pergandeida cracca* L.: Trněný Újezd, on *Vicia cracca* L., balk in fields (26. VII. 1960). Mažice, on *Vicia cracca* L., meadow-peat bog (12. VII. 1960). Těchobuz, Pacov — env., on *Vicia cracca* L., balk in fields (VIII. 1960). Horní Vltavice, Šumava, on *Vicia cracca* L., grassy habitat near a highway (22. VII. 1959).

Host-specificity: Monophagous. *Aphididae*, subf. *Aphidinae* (*Pergandeida*).

Habitat: Fields, balks, meadows.

#### **L. hirticornis** Mackauer 1960

General distribution: Europe (Germany, Czechoslovakia).

Hosts and material examined in Czechoslovakia:

*Metopeurum fuscoviride* Stroyan: Nitra, Δ Zobor, on *Tanacetum vulgare* L., field habitat (9. VII. 1957).

Host-specificity: Monophagous. *Aphididae*, subf. *Dactynotinae* (*Metopeurum*).

Habitat: Fields and meadows, balks.

#### **L. melandriicola** n. sp.

It is difficult for the time being to use other valuable specific criteria than the number of antennal segments and host-specificity for distinguishing the new species from *L. fabarum* (Marsh.) as the latter is rather variable.

The author has examined many hundred specimens of *L. fabarum* and about 180 specimens of the new species and as a result the variability in the number of antennal segments in both the quoted species is believed to be constant. In *L. fabarum* the antennae are 12—13 segmented in the female and 14 (rarely 13 or 15)-segmented in the male. In *L. melandriicola* n. sp. the antennae are 13—14-segmented in the female and 14—15-segmented in the male. For exact distinguishing of both the quoted species reared series of specimens are necessary.

The new species also seems to be monophagous on *Brachycaudus lychnidis* while *L. fabarum* is widely polyphagous species.

Female. — Head transverse, narrowed behind eyes, wider than thorax in tegulae, smooth, shiny, sparsely haired. Occiput margined. Temple about 1/9 narrower than transverse eye-diameter. Gena as wide as 1/3 of longitudinal eye-diameter. Eyes small, oval, slightly convex and convergent towards clypeus. Clypeus transverse, comparatively flat, smooth, shiny, sparsely haired — with about 9 hairs. Tentorio-ocular line 1/3 shorter than inter-tentorial distance. Antennae filiform, 13—14-segmented, reaching about half of the abdomen. Flagellar segment 1 just a little longer than 2, both 3times as long as wide at apex.

Thorax: Mesoscutum falling comparatively vertically to prothorax, without covering it when viewed from the side, shiny, sparsely haired, very slightly granulate. Notaulices distinct in the fore part, narrow, crenulate-rugose, effaced on the disc. Propodeum (Fig. 3) smooth, shiny, in the neighbourhood of the insertion of tergite 1 with small rugosity on each side; with 5—6 hairs in upper part on each side. Wings (Fig. 1) with characters of the genus. Pterostigma slender, triangular, 4—5times as long as wide. Metacarp about half longer than pterostigma, reaching

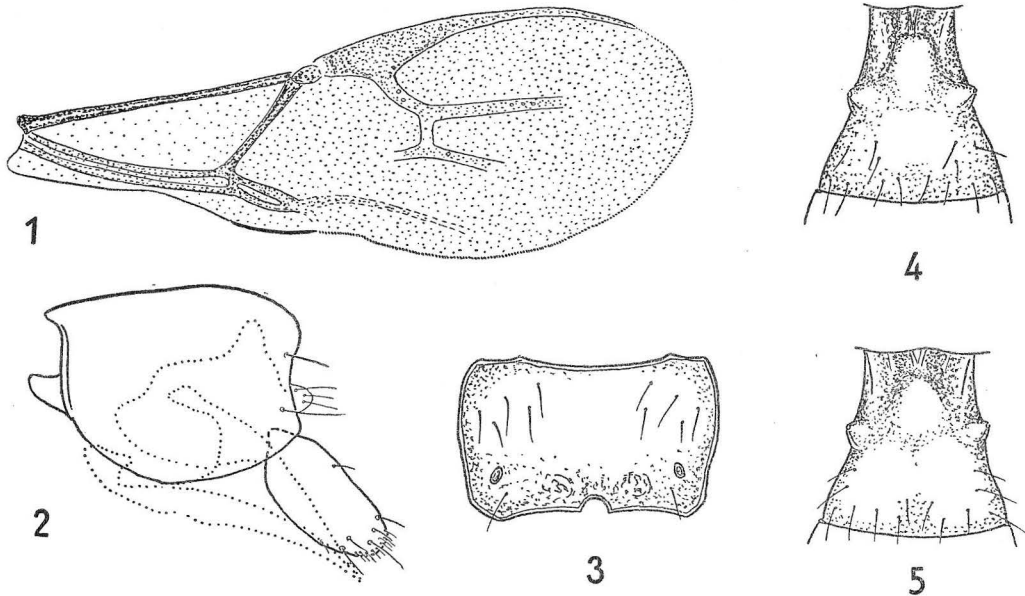


Fig. 1 — *Lysiphlebus melandriicola* n. sp., fore wing, female. Fig. 2 — Ditto, genitalia, female. Fig. 3 — Ditto, propodeum female. Fig. 4 — Ditto, tergite 1, female. Fig. 5 — Ditto, tergite 1, male.

wing-apex. Radial abscissa 1 twice as long as width of pterostigma. Radial abscissa 2 of variable length, usually as long as length of pterostigma or somewhat shorter, or 2—2.5times as long as radial abscissa 1. Interradial vein slightly depigmented but distinct, equal to width of pterostigma or to half of the length of radial abscissa 1. Part of median vein beneath interradian vein distinct. Hairs on the marginal margin of the wing as long as these on the disc. Legs normal. Tibiae with clinging hairs.

Abdomen lanceolate. Tergite 1 (Fig. 4) triangular, about 1/3 longer than wide at spiracles, smooth, shiny, slightly convex, dilating to the apex; with more or less developed central convex tubercle near the insertion of propodeum; with sparse long hairs in the apical part. Spiracular tubercles feebly prominent, situated somewhat before the half of the tergite. Distance between spiracular tubercles and apex equal to the width at spiracles. Following tergites smooth, shiny, sparsely haired. Genitalia figured (Fig. 2).

Coloration: Head black; mouthparts (except apexes of mandibles)

yellow to yellow brown, clypeus brownish. Antennae black; scape, pedicel and base of flagellar segment 1 brownish. Thorax black, prothorax sometimes brownish and sometimes with yellowish traces. Propodeum brown, with more or less distributed yellowish colour. Wings subhyaline, venation and tegulae brown. Legs brown yellow; femora, apical parts of tibiae and tarsi obscured. Abdomen: Tergite 1 and base of tergite 2 yellowish; tergites 2 and 3 yellowish or with more or less distributed brownish colour. Following tergites brown, obscured to the apex.

Length of body about 3 mm.

Male. — Antennae 14—15-segmented. Coloration darker than in the female, mostly only in bases of tergites 1 and 2 yellowish. Legs brown, bases of tibiae yellow. Hairs on the marginal margin of the fore wing much longer than these on the surface. Tergite 1 (Fig. 5).

General distribution: Europe (Czechoslovakia).

Hosts and material examined: Czechoslovakia.

*Brachycaudus lychnidis* L.: Praha, Strahovská zahrada, on *Melandrium album* Mill., in a park (7. VIII. 1956, 17 paratypes ♀♀ ♂♂, 16. VII. 1957, 6 paratypes ♀♀ ♂♂). Praha-Sárka, on *Melandrium album* Mill., edge of mixed wood (7. VI. 1957, about 50 paratypes ♀♀ ♂♂). Raná, Louny env., on *Melandrium album*, ditch near a highway (18. VI. 1957, 15 paratypes ♀♀ ♂♂), bank near a highway, 17. VI. 1960, 3 paratypes ♀♀ ♂♂). Louny env., on *Melandrium album* Mill. (18. VI. 1957, ♀ holotype, ♂ allotype, 17 paratypes ♀♀ ♂♂), grassy ditch in fields (18. VI. 1957, 23 paratypes ♀♀ ♂♂). Adamov, on *Melandrium album* Mill., hillside near meadows and forest (3. VI. 1960, 1 paratype).

Host-specificity: Monophagous. *Aphididae*, subf. *Anuraphidinae* (*Brachycaudus*).

Habitats: Fields, meadows, gardens, orchards.

Holotype (♀), allotype (♂) in coll. P. Starý. Paratypes are also deposited, in U. S. Nat. Museum collection and in collection of Dept. of Entomology, National Museum, Praha.

### **L. thelaxis** Starý 1961

General distribution: Europe (Czechoslovakia)

Hosts and material examined in Czechoslovakia:

*Thelaxes* sp.: Trněný Újezd, on *Quercus* sp., edge of mixed wood (26. VII. 1960). Dubí hora, env. of Strakonice, on *Quercus* sp., edge of wood (26. VI. 1959). Královský Chlumec, on *Quercus* sp., small oak wood in steppe — pasture (1. VI. 1960).

Host-specificity: Probably monophagous. *Thelaxidae*, subf. *Thelaxinae* (*Thelaxes*).

## NOTES ON THE GENUS *LYSIPHLEBUS* FÖRSTER

### I. NOTES ON *LYSIPHLEBUS DISSOLUTUS* (NEES), THE TYPE-SPECIES.

As the species *Lysiphlebus dissolutus* (Nees), the type-species of *Lysiphlebus* Förster, was quoted as species dubia in Mackauer's revision (1960) of the genus *Lysiphlebus* the following seems to be necessary to notice:

## *Lysiphlebus dissolutus* (Nees)

*Bracon dissolutus* Nees 1811, Magaz. Ges. naturf. Fr. Berlin 5: 29.

*Aphidius dissolutus* Nees 1834, Hym. Ichn. aff. Monogr. I: 23.

This species was described very unsatisfactorily by Nees. As the type is lost more species could fall in the original description. The original data on the habitat are not specific, too, as the species is quoted as occurring "in sepibus et in querce'is". In the fields habitats (meadows, etc.) there occurs the main part of *Lysiphlebus*-species but only one species occurs in oak woods (*L. thelaxis* Stary). Resulting from these facts it is necessary to note that more species seem to be described under the name *Aphidius* (= *Bracon*) *dissolutus* (Nees). The question could be hardly solved as the type is lost. But there are some specimens in Förster's collection labelled "*Lysiphlebus dissolutus*" and it is the best way for solving this problem to keep one of them as the neotype of *L. dissolutus* (Nees) as Förster based, no doubt, his original generic diagnosis of the genus *Lysiphlebus* on these quoted specimens. The most important feature is the wing venation, where interr radial and rest of median veins are distinctly developed (see original Förster's diagnosis of *Lysiphlebus*). The later character is but lacking in the species that occurs in oak woods (i. e. *L. thelaxis* Stary). So that it is impossible to keep a specimen of *L. thelaxis* as the possible neotype of *L. dissolutus* (Nees) as the species would run to the genus *Adialytus* Förster according to the Förster original key. The types of *Adialytus tenuis* are but existing and are quite different.

The redescription of *L. dissolutus* (Nees) is given below.

This species differs chiefly from its congeners in having 15-segmented antennae in the female and 17-segmented antennae in the male, by the shape of tergite 1 and by characters in wing-venation.

**Female.** — Head transverse, as wide as thorax in tegulae, smooth, shiny, sparsely haired. Occiput margined. Eyes oval to circular. Temple about as wide as transverse eye-diameter. Gena somewhat longer than half of longitudinal eye-diameter. Clypeus smooth, shiny, sparsely haired, with deep tentorial pit on each side. Antennae 15-segmented, comparatively slender, filiform, reaching about the apex of tergite 1, comparatively densely haired, situated at the level of the centre of the eyes. Scape and pedicel nearly of equal length. Flagellar segment 1 about 1/4 longer than flagellar segment 2. Apical segment about twice as long as the precedent, bluntly pointed at apex.

Thorax smooth, shiny. Notaulices on mesoscutum poorly visible in the front part. Propodeum smooth, with two divergent carinae and with feeble rugosities in lower part. Wings with characters of the genus. Pterostigma about 5 times as long wide. Metacarp somewhat longer than half of pterostigma. Radial abscissa 1 somewhat shorter than twice of width of pterostigma. Radial. abscissa 2 about 1/4 shorter than abscissa 1. Interradial vein as long as half of radial abscissa 1. Interradial vein and the rest of median vein under interr radial vein distinct. Marginal hairs as long as these on the surface.

Abdomen lanceolate. Tergite 1 (Fig. 5) about 1/3 longer than wide



at spiracles, smooth, with tuberculiform rugosity near base. Spiracular tubercles small, little prominent laterally, situated in the first third. Ovipositor sheaths bluntly conical.

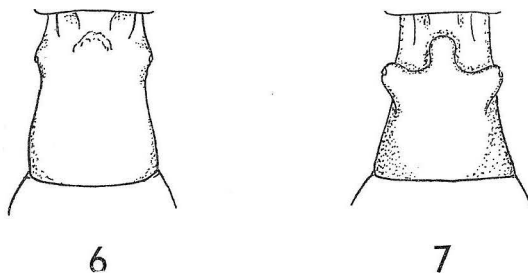


Fig. 6 — *Lysiphlebus dissolutus* (Nees), tergite 1, female. Fig. 7 — Ditto, tergite 1, male.

Coloration brown. Antennae, legs and abdomen lighter. Base of antennae, mandibles, clypeus, coxae, trochanters, 1st and 2nd flagellar segments yellowish. Wing-venation yellowish to slightly colourless.

Length of body about 1.7 mm.

Male. — Antennae 17-segmented. Tergite 1 (Fig. 7) with very prominent central and spiracular tubercles. Otherwise as the female.

General distribution: Europe.

Type-material examined:

1. "24/218. Aachen, Frst., *Lysiphlebus dissolutus*". ♀♂ mounted on one label, in good condition. The neotype (♀).
2. "24/198. Aachen. Frst. *Lysiphlebus dissolutus*", 2 ♂♂ in a poor condition.

Note 1.: All the material is deposited in Förster's collection in the Zool. Museum of the Humboldt-university in Berlin.

Note 2: In order to clean up the situation of the genotype of *Lysiphlebus* Förster 1862 it is necessary to note that Mackauer (1960) described the material of *L. dissolutus* (Nees) sensu Haliday 1834 as the new species *L. (Platycyphus) macrocornis* Mackauer 1960.

Resulting from our present paper the species *Lysiphlebus (Platycyphus) macrocornis* Mackauer 1960 must be kept as the **new synonym** of *Lysiphlebus dissolutus* (Nees 1811) sensu Förster 1862.

## II. IDENTITY OF *LYSIPHLEBUS* FÖRSTER 1862 AND *ADIALYTUS* FÖRSTER 1862.

In the generic classification of the *Aphidiidae* (1960) the author kept *Adialytus* Förster as a valid genus, allied to *Lysiphlebus* Förster. Resulting from the further studies it has been ascertained that such classification is incorrect. *Adialytus* Förster, with the type-species *A. tenuis* Först. represents only one case of *Lysiphlebus*-species that have interradiial vein and rest of cubital vein entirely reduced (see Starý 1961). For the quoted reasons *Adialytus* Förster must be kept

as a **new synonym** of *Lysiphlebus* Förster. The classification of *Adialytus* as a subgenus of *Lysiphlebus* does not seem to be correct because of lacking the valuable differentiating criteria for the time being.

### III. NOTES ON *LYSIPHLEBUS*-SPECIES DESCRIBED BY M. P. QUILIS.

In Mackauer's revision (1960) the classification and synonymization of *Lysiphlebus*-species described by M. P. Quilis is based on the original diagnoses, figures and partly on the material determined by M. P. Quilis. The types, however, were not revised. As the type-material of *Lysiphlebus*-species described by M. P. Quilis has been revised by the author some opinions of Mackauer (1960) must be rectified. The results of types-revision of the above given species that was undertaken by the author are as follows:

All the type material is deposited in "Estación de Fitopatología agrícola, Burjasot, Valencia".

#### "*Lysiphlebus fabarum* var. *inermis* Quilis M. P. 1931"

##### Material examined:

1. Female, labelled: „♀, Burjasot, Valencia (Hispania), Quilis, 27-3-30. Par. pulgon ortiga? Tipo." Condition: Good.
2. Female, male, labelled: „Sarrió, P. Saz., 10-9-30. Aphis rumicis. Par. Pul. Fava major. *Lysiphlebus fabarum* var. *inermis*." This locality was not given in the original description.

Result of the revision: This is a **new synonym** of *Lysiphlebus fabarum* (Marshall).

#### "*Lysiphlebus gomezi* (Quilis 1930)"

##### Material examined:

1. Male, labelled: „♂, cotipo, *Lysiphlebus gomezi*." Condition: Antennae broken.
2. Male, labelled: „♂, tipo." Condition: Antennae broken.
3. Female, labelled: „♀, Bétera, Valencia (Hispania), Quilis. Par. pul. acelgos." Condition: Antennae broken, their rest but visible in the medium.

Result of the revision: This is a **new synonym** of *Lysiphlebus fabarum* (Marshall).

#### "*Lysiphlebus innovatus* Quilis 1931"

##### Material examined:

1. Female, labelled: „♀, Burjaot, Valencia (Hispania), Quilis. 1-4-30. Parásito del pulgon de la Urtica dioica. Tipo. *Lysiphlebus inovatus*." Condition: Antennae and apex of abdomen missing.
2. Male, labelled: „Bétera, Valencia (Hispania), Quilis. 30-3-30. Sobre acelgos. Cotipo." Condition: Antennae and apex of abdomen missing.

Result of the revision: This is a **new synonym** of *Lysiphlebus fabarum* (Marshall).

#### "*Lysiphlebus janinii* (Quilis M. P. 1930)"

##### Material examined:

1. Female, labelled: „♀, Azuebar, 11-5-30. Tipo. *Lysiphlebus janini*." Condition: Antennae and apex of abdomen missing.
2. Female, labelled: „♀, Azuebar. 11-5-30. Par. pul. alcachofa." Condition: Flagellum missing.
3. Male, labelled: „♂, Azuebar, 20-9-30, cotipo." Condition: Part of antennae and central part of abdomen missing.

4. Male, labelled: „♂, Azuebar, 11-5-30, par. pul. alcachofa.“ Condition: Parts of antennae and legs missing.

Result of the revision: This is a **new synonym** of *Lysiphlebus fabarum* (Marshall).

“*Lysiphlebus moroderi* Quilis M. P. 1931”

Material examined:

1. Female, labelled: „Malvarrosa, Valencia (Hispania), Quilis. *Lysiphlebus moroderi* Quilis, ♀. Par. pul. Erigeron. Tipo.“ Condition: Central part of antennae missing, the rest but visible in the medium.

Result of the revision: This is a **new synonym** of *Lysiphlebus fabarum* (Marshall).

IV. *LYSIPHLEBUS (LYSIPHLEBUS) INNOVATUS* QUILIS M. P. 1931  
SENSU MACKAUER 1960.

*Lysiphlebus (Lysiphlebus) innovatus* Quilis M. P. 1931: Mackauer 1960, Beitr. Ent. 10:608—610.

The species “*Lysiphlebus innovatus* Quilis M. P. 1931” was carefully redescribed by Mackauer (1960) from 3 ♀♀ 1 ♂ (Antibes, France, 12. X. 1959, ex? *Rhopalosiphum padi* [L.], leg. R. v. d. Bosch). But the quoted redescription does not correspond to the type that was revised by the author. Therefore, another species was described by Mackauer instead of the true “*L. innovatus* Quilis M. P.”.

As the species that was supposed to be “*Lysiphlebus innovatus*” by Mackauer represents without any doubt a valid species a new name for this species is necessary and for this reason it is named “*Lysiphlebus mackaueri* n. sp.”. Description and figures of this species are included in the Mackauer's revision (1960) of European species of the genus *Lysiphlebus* Förster, so that they are omitted there.

V. A CATALOGUE OF THE EUROPEAN SPECIES OF THE GENUS  
*LYSIPHLEBUS* FÖRSTER 1862.

For cleaning the contemporary stage of knowledge of *Lysiphlebus*-species of Europe a catalogue of species is given below.

Genus: ***Lysiphlebus*** Förster 1862

Type-species: *Bracon dissolutus* Nees 1811.

*Lysiphlebus* Förster 1862, Verh. Naturh. Ver. Preuss. Rheinl. 19: 248, 250.

Type-species: *Aphidius dissolutus* (Nees) (Orig. design.).

*Adialytus* Förster 1862, Verh. Naturh. Ver. Preuss. Rheinl. 19: 249, 250 (N. syn.).

Type-species: *Adialytus tenuis* Förster (Orig. design.).

*Aphidaria* Provancher 1888, Addit. Corr. Faune Ent. Canada, p. 396.

Type-species: *Aphidaria basilaris* Provancher (Orig. design.).

*Lysiphlebus* subg. *Platycyphus* Mackauer 1960, Beitr. Ent. 15: 590—1. (N. syn.).

Type-species: *Lysiphlebus (Platycyphus) macrocornis* Mackauer (Orig. design.).

1. ***L. ambiguus*** (Haliday 1834)

*Aphidius (Aphidius) ambiguus* Haliday 1834, Ent. Mag. London 2: 104.

*Aphidius cardui* Marshall 1896 (partim), in André Spec. Hym. Eur. d'Alg. 5: 593—4.

2. ***L. arvicola*** Starý 1961

*Lysiphlebus arvicola* Starý 1961, Bull. ent. Pologne 31: 98—100.

3. ***L. dissolutus*** (Nees 1811) sensu Förster 1862

- Bracon dissolutus* Nees 1811, Berl. Magaz. 5: 29. — Nees 1834, Hym. Ichn. aff. Monogr. 1: 23 (*Aphidius*). — Förster 1862, Verh. Naturh. Ver. Preuss. Rheinl. 19: 248 (as the type-species of *Lysiphlebus* Förster).
- Lysiphlebus (Platycyphus) macrocornis* Mackauer 1960, Beitr. Ent. 10: 591—3. (N. syn.)
4. **L. fabarum** (Marshall 1896)
- Aphidius cardui* Marshall 1896 partim, in André Spec. Hym. Eur. d'Alg. 5: 593—4.
- Aphidius fabarum* Marshall 1896, in André Spec. Hym. Eur. d'Alg. 5: 599—600.
- Aphidius gomezi* Quilis M. P. 1930, Bol. Pat. Veget. y Ent. agríc. 4: 55—7. (N. syn.)
- Aphidius janinii* Quilis M. P. 1930, Bol. Pat. Veget. y Ent. agríc. 4: 61—3. (N. syn.)
- Lysiphlebus fabarum* var. *inermis* Quilis M. P. 1931, Eos Madrid 7: 46. (N. syn.)
- Lysiphlebus innovatus* Quilis M. P. 1931, Eos Madrid 7: 39—42. (N. syn.)
- Lysiphlebus moroderi* Quilis M. P. 1931, Eos Madrid 7: 43—5. (N. syn.)
5. **L. hirticornis** Mackauer 1960
- Lysiphlebus (Lysiphlebus) hirticornis* Mackauer 1960, Beitr. Ent. 10: 660—8.
6. **L. laticephalus** (Telenga 1953)
- Aphidius (Diaeretus) laticephalus* Telenga 1953, Trudy Inst. Zool. parazitol. AN Uzbekoj SSR 1: 172—3.
7. **L. mackaueri** n. sp.
- Lysiphlebus mackaueri* n. sp. [for *Lysiphlebus innovatus* Quilis M. P. 1931 sensu Mackauer 1960, Beitr. Ent. 10: 608—11].
8. **L. melandriicola** n. sp.
9. **L. tenuis** (Förster 1862)
- Adialytus tenuis* Förster 1862, Verh. Nat. Ver. Preuss. Rheinl. 19: 249.
10. **L. thelaxis** Starý 1961
- Lysiphlebus thelaxis* Starý 1961, Bull. ent. Pologne 31: 100—102.

#### Genus: **Trioxys** Haliday

Species of this genus are inhabitants of various kinds of habitats in Czechoslovakia.

Host-specificity: There are three groups of species in the genus *Trioxys*: Monophagous (e.g. *T. cirsii* [Curt.], *T. falcatus* Mac k.)  
 Oligophagous (e.g. *T. brevicornis* [Hal.])  
 Polyphagous (e.g. *T. angelicae* [Hal.]).

Species of the genus *Trioxys* are parasites of various groups of the following aphid-families: *Chaitophoridae*, *Callaphididae*, *Aphididae*.

#### **T. (Binodoxys) angelicae** (Haliday 1833)

*Aphidius (Trioxys) angelicae* Haliday 1833, Ent. Mag. London 1: 489.

*Trioxys placidus* Gautier 1922, Bull. Soc. ent. France 1921: 302.

This is the commonest species of the genus *Trioxys* in Czechoslovakia.

General distribution: Europe, N. Africa, ? Central Asia.

Hosts and material examined in Czechoslovakia:

*Acyrtosiphon caraganae* (Chol.): Praha, Seminářská zahrada, on *Caragana arborescens* Lam., park [7. VI. 1959].

*Aphidae* spp.: Praha, Botanical garden, on *Malachium aquaticum* L., park [25. VI. 1960], on *Tropaeolum majus* L. [18. VII. 1960].

*Aphidula farinosa* (Gmel.): Praha, Botanical garden, on *Salix* sp., park [6. VII. 1960, 25. VI. 1960]. Novohradské hory, on *Salix* sp. [23. VI. 1959]. Lnáře, on *Salix* sp., bushes near a pond [5. VI. 1957].

*Aphidula pomi* (Deg.): Praha, Botanical garden, on *Malus silvestris* L., park [9. VI. 1959]. Dobřichovice, on *Malus silvestris* L., trees along a highway [26. VII. 1960]. Trněný Újezd, on *Malus silvestris* L., trees along a highway [26. VII. 1960].

*Aphis cognatella* Jones: Praha, Seminářská zahrada, on *Euonymus europaea* L., park (14. VI. 1959). Nechanice, on *Euonymus europaea* L., deciduous forest (24. VII. 1959).

*Aphis fabae* Scop.: Praha, Botanical garden, on *Viburnum opulus* L. (8. VI. 1957), *Philadelphus coronarius* L. (3. VI., 8. VI. 1957), *Euonymus europaea* L. (3. VI. 1957, 8. V., 30. V. 1958, 10. V. 1959, 7. V. 1960, 17. V. 1960), *Arctium* sp. (2. VII. 1958, 15. VI. 1960), *Campanula rapunculoides* L. (1. VII. 1959). Praha, Seminářská zahrada, on *Euonymus europaea* L. (7. VI., 22. V., 2. VI. 1957, 18. V., 1. VI. 1958, 24. V., 2. VI. 1959), on *Philadelphus coronarius* L. (22. V. 1957, 2. VI. 1957, 18. V. 1958, 21. VI. 1960). Praha, Kinského sady, on *Philadelphus coronarius* L. (1. VII. 1956). Praha-Dejvice, on *Cirsium* sp. (8. VI. 1957). Praha-Karlovo náměstí, on *Philadelphus coronarius* L. (1. VI. 1957). Karlštejn, on *Euonymus europaea* L., edge of mixed forest (3. VI. 1957, 19. V. 1960). Srbsko, on *Euonymus europaea* L., garden (14. V. 1958). Zadní Třebáň, on *Cirsium arvense* L., long-fallow land (17. VII. 1959). Řevnice, on *Euonymus europaea* L., bushes in balks in the fields, bushes in edge of mixed forest near gardens (5. V. 1959). Neratovice, on *Euonymus europaea* L., edge of mixed forest (13. V. 1960). Roudnice, on *Euonymus europaea* L. (VI. 1956, lgt. Láska). Mnichovo Hradiště, on *Beta vulgaris* L., field near a highway, near an alley of apple-trees (1. VII. 1960). Lednice, on *Euonymus europaea* L. (VI. 1955, lgt. Láska). Opatov, on *Beta vulgaris* L., field (8. VII. 1958). Pavlov, Pavlovské kopce, on *Euonymus europaea* L., mixed forest (26. VI. 1956, lgt. Štys). Smolín, on *Euonymus europaea* L., bushes near a highway (19. V. 1960). Pohořelice, on *Euonymus europaea* L., bushes in fields (19. V. 1960). Brno, on *Euonymus europaea* L., park (19. V. 1960). Pouzdřany, on *Euonymus europaea* L., garden (4. VI. 1960). Bystřice p. Hostýnem, on *Euonymus europaea* L., park (8. VI. 1960). Levice, Zajačie dolina, on *Euonymus europaea* L., edge of deciduous forest (11. V. 1957). Levice, Horša, on *Euonymus europaea* L., bushes near gardens (11. V. 1957). Kováčov, on *Euonymus europaea* L., bushes near a railway (V. 1957). Plavecké Podhradie, on *Euonymus europaea* L., bushes near a brook (9. IX. 1958). Sklabiňa, V. Fatra, on *Euonymus europaea* L., edge of a meadow near a highway, bushes — *Acer*, *Rosa*, *Cornus* (17. V. 1959). Necpaly, V. Fatra, on *Euonymus europaea* L., edge of a garden — *Euonymus*, *Acer*, *Lonicera*, *Fraxinus* (19. V. 1959). Martin, V. Fatra, on *Euonymus europaea* L., bushes in a garden — *Crataegus*, *Sambucus*, *Euonymus*, near a sugar-beet field (21. V. 1959). Sklabiňský Podzámok, V. Fatra, on *Euonymus europaea* L., edge of a garden (17. V. 1959). Kamienka, env. Humenné, on *Euonymus europaea* L., bushes near a brook (25. V. 1958). Kapušany, on *Euonymus europaea* L., edge of a park (13. V. 1959). Vel. Šariš, on *Euonymus europaea* L., bushes in balks among fields — *Rosa*, *Cornus*, *Ligustrum*, *Acer*, *Euonymus* (12. V. 1959). Spiš. Vlasy, on *Euonymus europaea* L., edge of a garden (13. V. 1959). Kysak, on *Euonymus europaea* L., bushes in a pasture (13. V. 1959). Turňa n. B., on *Euonymus europaea* L., bushes in wood-steppe (15. X. 1958).

*Aphis sambuci* L.: Praha, Seminářská zahrada, on *Sambucus nigra* L., park (24. V. 1959).

*Aphis viburni* Scop.: Praha, Botanical garden, on *Viburnum opulus* L., park (9. VI. 1959).

*Aphis* spp.: Praha, Botanical garden, on *Spiraea arguta* Zabel., park (7. VII. 1959), on *Rumex* sp. (29. VI. 1960). Praha, Seminářská zahrada, on *Spiraea* sp., park (8. VI. 1958). Babylon, Český Les, on *Impatiens nollii-tangere* L., 10. VII. 1959, lgt. Holman/Orlik, on *Cirsium* so., meadow (26. VI. 1959).

*Brachycaudus* sp.: Praha, Botanical garden, on *Persica vulgaris* Mill., park (7. VII. 1960).

*Brachycaudus rumicicolens* Patch: Doksy, on *Rumex acetosella* L. (5. VII. 1959, lgt. Holman).

*Dysaphis depecta* (Walk.): Praha, Strahovská zahrada, on *Malus silvestris* L., par (1. VII. 1956).

*Dysaphis* sp.: Zadní Třebáň, on *Crataegus oxyantha* L., edge of mixed wood (19. V. 1960.)

*Pergandeida laburni* (Koch): Praha, Kinského sady, on *Laburnum anagyroides* Med., park (15. VII., 22. VII. 1956, 7. VI. 1959).

*Pergandeida* spp.: Praha, Botanical garden, on *Caragana arborescens*, park (24. VI. 1960). Adamov, on *Cytisus nigricans* L., hillside (3. VI. 1960).

Host-specificity: Polyphagous. *Aphididae*, subf. *Aphidinae* (*Aphis*, *Aphidula*, *Pergandeida*), subf. *Anuraphidinae* (*Brachycaudus*, *Dysaphis*) and subf. *Dactynotinae* (*Acyrtosiphon*).

Host-preference: *Aphidula pomi* (D e g.), *Aphis fabae* S c o p., *Pergandeida* spp.

Habitat: Mixed forests, parks, gardens, bushes in fields, orchards.

#### **T. (*Trioxys*) auctus (Haliday 1833)**

*Aphidius* (*Trioxys*) *auctus* Haliday 1933, Ent. Mag. London 1: 489.

General distribution: Europe.

Hosts and material examined in Czechoslovakia:  
Lužany (VII. 1954). Luisino údolí, Orl. hory, pine forest-glade (8. VII. 1959).

#### **T. (*Binodoxys*) brevicornis (Haliday 1833)**

? *Aphidius* (*Trioxys*) *minutus* Haliday 1833, Ent. Mag. London 1: 491.

*Aphidius* (*Trioxys*) *brevicornis* Haliday 1833, Ent. Mag. London 1: 491.

General distribution: Europe

Hosts and material examined in Czechoslovakia:

*Cavariella* sp.: Praha, Botanical garden, on *Daucus carota* L., park (24. VI. 1960).

*Hyadaphis* sp.: Český Brod, on *Conium maculatum* L., near a garden (28. VII. 1960).

Host-specificity: Oligophagous. *Aphididae*, subf. *Myzinae* (*Hyadaphis*; *Cavariella*).

Habitat: Gardens and meadows.

#### **T. (*Binodoxys*) centaureae (Haliday 1833)**

*Aphidius* (*Trioxys*) *centaureae* Haliday 1833, Ent. Mag. London 1: 490.

General distribution: Europe.

Common species in Czechoslovakia.

Hosts and material examined in Czechoslovakia:

*Dactynotus aeneus* H R L.: Praha, Botanical garden, on *Carduus crispus* L., *Carduus* sp., park (2. VII. 1958, 30. V. 1958). Lysá nad Labem, on *Carduus* sp., meadow (3. IX. 1957).

*Dactynotus campanulae* (Kalt.): Praha, Kinského sady, on *Campanula* sp., park (15. VII. 1956).

*Dactynotus cichorii* (Koch): Litomyšl, on *Crepis biennis* L., grassy habitat near a highway (8. VII. 1958). Zátavi, on *Cichorium intybus* L., balk in fields (26. VI. 1959). Liběchov, on *Cichorium intybus* L., meadow (24. VI. 1957). Žlunice, on *Crepis biennis* L. (VII. 1955, lgt. Láska).

*Dactynotus* ? *muralis* (B c k t.): Prachov, on *Mycelis muralis* L. (2. VIII. 1960, lgt. Holman).

*Dactynotus obscurus* (Koch): Alapy, on *Hieracium* sp. (11. VI. 1958). Harrachov, Krkonoše, on *Hieracium*, submountain meadow (27. VI. 1957).

*Dactynotus* spp.: Tuklaty, on *Carduus* sp., long-fallow land near a railway (18. VI. 1959). Bohdaneč, on *Cirsium arvense* L., meadow (7. VII. 1958). Těchobuz, env. Pacov, on *Crepis* sp., grassy habitat near a pond (VIII. 1960). Mohelno, on *Centaurea scabiosa* L., steppe (5. VI. 1960). △ Hostýn (VIII. 1960).

*Macrosiphoniella millefolii* (D e g.): Tuklaty, on *Achillea millefolium* L., long-fallow land near a railway (18. VI. 1959). Český Brod, on *Achillea millefolium* L., park (28. VII. 1960). Studnice on *Achillea millefolium* L., grassy habitat near a highway (22. VI. 1959). Rojice, on *Achillea millefolium* L., grassy habitat near a pond (25. VI. 1959). Mimoň, on *Achillea millefolium* L., edge of a park (27. VI. 1959). △ Raná, Louny-env.,

on *Achillea millefolium* L., steppe with *Stipa* (17. VI. 1960). Těchobuz, Pacov-env., on *Achillea millefolium* L., balk in fields (VIII. 1960).

*Microlophium evansi* (Theob.): Praha, Seminářská zahrada, on *Urtica dioica* L., park (22. VII. 1956).

*Pergandeida* sp.: Praha, Botanical garden, on *Robinia pseudoacacia* L., park (30. VII. 1958).

*Rhopalosiphum padi* (L.): Praha, Botanical garden, on *Padus racemosa*, park (V. 1956).

**Host-specificity:** Oligophagous. *Aphididae*, subf. *Aphidinae*, (*Pergandeida*) and subf. *Dactynotinae* (*Microlophium*; *Dactynotus*, *Macrosiphoniella*).

**Host-preference:** *Dactynotus* spp., *Macrosiphoniella millefolii* (Deg.).

**Habitat:** Meadows and gardens.

### **T. (*Trioxys*) *cirsii* (Curtis 1831)**

*Aphidius cirsii* Curtis 1831, Brit. Entom. 8: 383.

*Aphidius (Trioxys) aceris* Haliday 1833, Ent. Mag. London 1: 490.

**General distribution:** Br. Isles, Netherlands, Germany, Czechoslovakia.

**Hosts and material examined in Czechoslovakia:**

*Drepanosiphon platanoides* (Schrk.): Praha, Kinského sady, on *Acer platanoides* L., park (8. VII. 1960). Český Brod, on *Acer pseudoplatanus* L., park (28. VII. 1960). V. Ježov, env. Pacov, on *Acer pseudoplatanus* L., garden in a village (VIII. 1960). Javorník, on *Acer platanoides* L., edge of mixed forest (7. VI. 1960). Sutovská dolina, Malá Fatra, on *Acer pseudoplatanus* L., mixed forest (18. VIII. 1960).

**Host-specificity:** Monophagous. *Callaphididae*, subf. *Phyllaphidinae* (*Drepanosiphon*).

**Habitat:** Mixed woods, parks.

### **T. (*Trioxys*) *falcatus* Mackauer 1959**

*Trioxys (Trioxys) falcatus* Mackauer 1959, Beitr. Ent. 9: 164—5.

**General distribution:** Europe (Germany, Czechoslovakia).

**Hosts and material examined in Czechoslovakia:**

*Periphyllus aceris* (L.): Praha, on *Acer platanoides* (7. VII. 1960). Praha, Strahovská zahrada, on *Acer platanoides* L., park (21. VI. 1959).

**Host-specificity:** Monophagous. *Chaitophoridae*, subf. *Chaitophorinae* (*Periphyllus*).

**Habitat:** Parks and probably mixed woods.

### **T. (*Betuloxys*) *hortorum* Starý 1960**

*Trioxys (Betuloxys) hortorum* Starý 1960. Acta Soc. Ent. Čechosl. 57: 365—7.

**General distribution:** Europe (Czechoslovakia).

**Hosts and material examined in Czechoslovakia:**

*Tinocallis platani* (Kalt.): Praha, Seminářská zahrada, on *Ulmus effusa* Willd., park (26. V. 1959).

**Host-specificity:** Monophagous. Fam. *Callaphididae*, subf. *Callaphidinae* (*Tinocallis*).

**Habitat:** Parks and probably mixed and deciduous woods.

**T. (Trioxys) humuli** Mackauer 1960

*Trioxys (Trioxys) humuli* Mackauer 1960, Beitr. Ent. 10: 152—4.

General distribution: Europe (Germany, Czechoslovakia).

Hosts and material examined in Czechoslovakia:

*Phorodon humuli* (Schrk.): Louny, on *Humulus lupulus* L., hop-garden (18. VI. 1957).

Host-specificity: Monophagous. *Aphididae*, subf. *Myzinae* (*Phorodon*).

Habitat: Fields habitats — hop-gardens.

**T. (Pectoxys) macroceratus** Mackauer 1960

*Trioxys (Pectoxys) macroceratus* Starý in Mackauer 1960, Beitr. Ent. 10: 155—7.

— Starý 1960, Ent. mon. Mag. 96: 22—3.

General distribution: Europe (England, Czechoslovakia).

Hosts and material examined in Czechoslovakia:

*Aphis podagrariae* Schrk.: Strážnice, on *Aegopodium podagraria* L., grassy ditch in fields (6. VI. 1960).

Host-specificity: Oligophagous. *Aphididae*, subf. *Aphidinae* (*Aphis*).

Habitat: Meadows

Note: When compared with the typical specimens the specimens from Czechoslovakia have much more darker coloration.

Female. — Head black brown; face, clypeus, mouthparts yellow. Antennae brown black; scape, pedicel and flagellar segment 1 yellow brown. Thorax black brown, prothorax lighter. Legs brown yellow; trochanters and bases of tibiae lighter. Abdomen: Tergite 1, base of tergite 2 and prongs of the last sternite yellow, otherwise brown.

The remarkable characters on ovipositor-sheaths, prongs of the last sternite shape of tergite 1 and characters in wing venation are but easily recognizable for the identification of the quoted specimens from Czechoslovakia as *T. macroceratus*.

Male. — Antennae 13-segmented. Shape of tergite 1 as in the female. Head black brown, mouthparts brownish. Antennae brown black; base of flagellar segment 1 yellowish. Thorax black brown. Legs brown, trochanters and bases of tibiae yellowish. Abdomen: Basal half of tergite 1 yellowish, otherwise dark brown.

**T. (Trioxys) pannonicus** Starý 1960

*Trioxys (Trioxys) pannonicus* Starý 1960, Bull. Soc. ent. Mulhouse 1960: 93—6.

General distribution: Europe (Czechoslovakia, Hungary).

Hosts and material examined in Czechoslovakia:

*Titanosiphon artemisiae* (Koch): Královský Chlumeč, on *Artemisia campestris* ssp. *eucampestris* Briq. Cav., xerotherm habitat in old stone-pit (1. VI. 1960). Malý Kamenec, on *Artemisia campestris* ssp. *eucampestris* xerotherm locality in old vineyard (1. VI. 1960).

Host-specificity: Monophagous. *Aphididae*, subf. *Dactynotinae* (*Titanosiphon*).

Habitats: Meadows of the steppe-district.



## T. (*Trioxys*) *parauctus* Starý 1960

*Trioxys* (*Trioxys*) *parauctus* Starý 1960, Acta Soc. Ent. Čechosl. 57: 367—8.

General distribution: Europe (Czechoslovakia).

Hosts and material examined in Czechoslovakia:

*Aphis* sp.: Vel. Šariš, on Galium sp., balk in fields (12. V. 1959).

*Hydaphias* sp.: Jičín, on Galium verum L. (16. VII. 1957, lgt. Holman). Mohelno, on Galium verum L., steppe (5. VI. 1960). Somotor, on Galium sp. (1. VI. 1960).

Host-specificity: ? Oligophagous. *Aphididae*, subf. *Aphidinae* (*Aphis*) and subf. *Myzinae* (*Hydaphias*).

Habitat: Meadows.

### NOTE ON THE GENUS TRIOXYS:

The following group-species are omitted in this paper as the specific classification of the different species has been unclear as yet: *T. pallidus* (Hal.), *T. rietscheli* Mack., *T. urticae* Mack.

### Literary data:

#### *Trioxys amoplanus* Quilis M. P. 1931

"*Macrosiphum sonchi*": Mariánské hory, env. of M. Ostrava, on *Cirsium arvense* (after Quilis M. P. 1931, Baudyš 1941).

#### *Trioxys brevicornis* (Hal.)

"*Aphis anthrisci*": Jinošov, Náměšť, on *Torilis anthriscus* (after Quilis M. P. 1931; Baudyš 1941).

#### *Trioxys cirsii* (Curtis)

"*Aphis aceris*": Kaplice (after Kirchner 1856).

### CONCLUSIONS

1. The account on the fauna of the genera *Lysiphlebus* Förster and *Trioxys* Haliday in Czechoslovakia is given.
2. The validity of *Aphidius dissolutus* (Nees 1811) sensu Förster 1862 is discussed. The species is redescribed.
3. *Lysiphlebus (Platycyphus) macrocornis* Mackauer 1960 is the new synonym of *Lysiphlebus dissolutus* (Nees 1811) sensu Förster 1862.
4. *Lysiphlebus melandriicola* n. sp. and *Lysiphlebus mackaueri* n. sp. (for *Lysiphlebus innovatus* Quilis M. P. 1931 sensu Mackauer 1960) are described.
5. Following species fall as new synonyms of *Lysiphlebus fabarum* (Marshall): *Aphidius gomezi* Quilis M. P. 1930, *Aphidius janinii* Quilis M. P. 1930, *Lysiphlebus fabarum* var. *inermis* Quilis M. P. 1931, *Lysiphlebus innovatus* Quilis M. P. 1931, *Lysiphlebus moroderi* Quilis M. P. 1931.
6. A catalogue of *Lysiphlebus*-species of Europe is given.
7. *Adialytus* Förster 1862 is the new synonym of *Lysiphlebus* Förster 1862.

## Faunistický přehled československých druhů rodů *Lysiphlebus* Förster a *Trioxys* Haliday

Tato práce je faunistickým přehledem rodů *Lysiphlebus* Förster a *Trioxys* Haliday v Československu. U jednotlivých druhů je podán přehled materiálu, přehled hostitelů, specificita a biotop. Současně jsou řešeny některé otázky taxonomického charakteru.

Všechny údaje v práci obsažené jsou originální. Několik málo literárních údajů je uvedeno ve zvláštních odstavcích. Převážná většina uvedených druhů, z nichž některé jsou důležitými parazity škodlivých druhů mšic, nebyla dosud z území Československa známá.

### РЕЗЮМЕ

В Чехословакии были найдены следующие виды рода *Lysiphlebus* Förster: *L. ambiguus* (Hal.), *L. arvicola* Starý, *L. fabarum* (Marshall), *L. fritzmulleri* Mackauer, *L. hirticornis* Mackauer, *L. dissolutus* (Nees), *L. melandriicola* Starý, *L. thelaxis* Starý. В конце дается каталог европейских видов рода *Lysiphlebus* Förster.

В Чехословакии были найдены следующие виды рода *Trioxys* Haliday: *T. (T.) angelicae* (Hal.), *T. (T.) auctus* (Hal.), *T. (B.) brevicornis* (Hal.), *T. (B.) centaureae* (Hal.), *T. (T.) cirsii* (Curt.), *T. (T.) falcatus* Mack., *T. (B.) hortorum* Starý, *T. (T.) humuli* Mack., *T. (T.) macroceratus* Mack., *T. (T.) pannonicus* Starý, *T. (T.) parauctus* Starý.

Для отдельных видов приводится обзор имеющихся материалов, обзор хозяев, кормовая специализация а характер биотопов.

Кроме того в работе решаются некоторые вопросы таксономии. Обсуждается самостоятельность вида *Lysiphlebus dissolutus* (Nees), который вновь описывается. Далее дается описание двух новых видов: *Lysiphlebus melandriicola* n. sp., *Lysiphlebus mackaueri* n. sp.

Следующие виды сводятся в новые синонимы вида *Lysiphlebus fabarum* (Marsh.): *Aphidius gomezi* Quilis, *Aphidius janinii* Quilis, *Lysiphlebus fabarum* var. *inermis* Quilis, *Lysiphlebus innovatus* Quilis, *Lysiphlebus moroderi* Quilis.

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