

Aphidiid Parasites of Aphids in the USSR (Hymenoptera : Aphidiidae)

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I. INTRODUCTION

The aphid parasites are an important group of the parasitic Hymenoptera the research in which represents an applied problem because of successful experiments made in using the aphidiids in the biological control of aphids.

In spite of the fact that over 50 smaller papers on the aphidiid parasites of the USSR have been published this group has been rather poorly known until now. The greater part of the papers have been based on the historical literature of this group and for this reason the records have also to be classified as being doubtful from the contemporary viewpoint. This is also the case in the greatest Soviet papers on the aphidiids — that of A. N. Luzhetzki (1960), which springs in a similar way from the Haliday and Marshall classifications, although the modern criteria of Smith (1944) were also used. The aim of the present author's paper is to give a basis on which Soviet authors can found their further studies without troublous work connected with the orientation of the historical and contemporary literature as the quantity of the latter has been rapidly growing.

The present paper includes original data exceptionally, in some cases results of the revision of the original material collected by various authors have been added. Judging from the host records the greatest part of the literary data is recommended to be classified as being doubtful in the author's opinion. The whole paper is a result of the examination of the materials collected by the author in various parts of the USSR (European part, Central Asia, Transcaucasia, Caucasus) and by various specialists of the Soviet zoological and other institutes.

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II. A REVIEW OF THE APHIDIID WASPS OF THE USSR

Ephedrus campestris Starý, 1962

Distribution: Europe (Czechoslovakia, Eur. part of USSR), Far East, Transcaucasia.

Habitat: Steppe, in a lower degree wood-steppe. In cultivated areas it occurs in meadows, waste-places, etc.

Host-specificity: A parasite of *Macrosiphoniella* and *Dactynotus*-species.

Hosts and localities in USSR: *Macrosiphoniella absinthii* (L.): Eur. part — Tshashnikovo, Chimkinsky r., 7. 1954, lgt. Holman. *Macrosiphoniella* sp. Azerbaidjan — Ryuk, Kubinsky r., 7. 1962, on *Artemisia* sp., bank of a river, lgt. Starý.

Ephedrus persicae Froggatt, 1904

Distribution: Europe, North Africa, Central Asia, Asia Minor, Far East, Nearctic reg., S. Africa, Madagascar.

Habitat: Orchards, gardens, mixed woods, shrubs.

Host-specificity: A parasite of a number of dendrophilous aphids (*Anuraphidina*, *Myzina*).

Hosts and localities in USSR: *Aphis pomi* Deg.: Tajikistan — Kondara valley, Gissarsky khrebet, 10. 1959, lgt. Ataeva. *Dysaphis crataegi* (Kalt.): Tajikistan — Dushanbe, Gissarsky khrebet, 26. 4. 1959, 30. 4. 1959, 10. 7. 1956, lgt. Ataeva. *Dysaphis sorbium* Narz.: Tajikistan — Dushanbe, Gissarsky khrebet, 7. 4. 1959, lgt. Ataeva. *Hayhurstia tataricae* Aizenb.: Eur. part — Moscow, Lenin. gory, 7. 1962, on *Lonicera tatarica*, park, lgt. Starý. *Myzus cerasi* (F.): Georgia — Tbilisi, Botan. garden, 30. 5. 1961, on *Prunus* sp., lgt. Achvlediani. *Roepkea marchali* (Börn.): Georgia — Tbilisi, Botan. garden, 9. 6. 1961, 30. 5. 1961, on *Prunus mahaleb*, lgt. Achvlediani. *Aphidoidea* spp.: Eur. part — Kaliningrad, 17. 6. 1962, on *Prunus domestica*, lgt. Rupais. Uzbekistan — Kubasaisky r., Fergana distr., 21. 10. 1959, lgt. Luzhetzki.

Ephedrus plagiator (Nees, 1811)

Distribution: Palearctic reg.

Habitat: Orchards, gardens, shrubs in fields, edges of deciduous and mixed woods, to a lesser degree in meadows and steppe type habitats.

Host-specificity: A parasite of a number, mostly dendrophilous, aphids.

Hosts and localities in USSR: *Aphis* sp.: Eur. part — Moscow, 28. 6. 1957, on *Roripa islandica*, lgt. Holman. *Brachycaudus* sp.: Georgia — Tbilisi, Botan. garden, 30. 5.

1961, on *Tamarix hohenackeri*, lgt. Achvlediani. *Dysaphis devectora* (Walk.): Crimea — Jalta, Nikitinsky botan. sad, 16. 6. 1949, lgt. Rubtzov. *Hyalopterus pruni* (Geoffr.): Crimea — Jalta, Nikitinsky botan. sad, 16. 6. 1949, lgt. Rubtzov. Latvia — Salaspils, Botan. garden, 11. 8. 1962, on *Prunus cerasifera* f. *atropurpurea*, lgt. Rupais. *Rhopalosiphum oxyacanthae* (Schrk.): Eur. part — Moscow env., Zvenigorod, 6. 1955, on *Malus communis*, lgt. Holman. *Rhopalomyzus loniceræ* (Sieb.): Latvia — Kretinga, 15. 6. 1962, on *Lonicera tatarica*, lgt. Rupais. *Sipha* sp.: Eur. part — Moscow, 28. 6. 1957, on *Festuca pratensis*, lgt. Holman. *Aphidoidea* spp.: Latvia — Kaliningrad, 17. 6. 1962, on *Prunus domestica*, lgt. Rupais. Swept material: Far East — Artem, env. of Vladivostok, 15. 8. 1961, lgt. Trjapicyn. Port Tigrovy, Primorye, Suuansky zapov., 15. 8. 1961, lgt. Perepelina. Vladivostok, 17. 8. 1961, lgt. Trjapicyn. Suputinsky zapov., 8. 8. 1961, mixed wood, lgt. Kovaliev. St. Gorno-Tajoshnaja, 9. 7. 1961, edge of wood, lgt. Trjapicyn. Buchta Taungou, Suputinsky zapov., Primorye, 19. 8. 1961, lgt. Trjapicyn.

Ephedrus sp.

Hosts and localities in USSR: *Myzus cerasi* (F.) — Caucasus, Erfi, Kubinsky r., 7. 1962, on *Prunus avium*, orchard, lgt. Starý.

Praon abjectum (Haliday, 1833)

Distribution: Europe, Asia Minor.

Habitat: Forest and intermediate type habitats.

Host-specificity: A parasite of *Protolachnus*-species.

Hosts and localities in USSR: *Aphis* sp. — Eur. part, Abramtzevo, Moscow distr., 7. 1962, on *Epilobium parviflorum*, lgt. Holman.

Praon absinthii (Bignell, 1894)

Distribution: Europe.

Habitat: Steppe, in cultivated areas it occurs in meadows, waste places and long-fallow lands.

Host-specificity: A parasite of *Macrosiphoniella*-species.

Hosts and localities in USSR: *Macrosiphoniella millefolii* (Deg.): Eur. part — Moscow, 1. 7. 1957, on *Achillea millefolium*, lgt. Holman.

Praon bicolor Mackauer, 1959

Distribution: Europe.

Habitat: Forest habitats — coniferous and mixed woods.

Host-specificity: A parasite of *Protolachnus*-species.

Hosts and localities in USSR: *Protolachnus* sp.: Eur. part — Abramtzevo, Moscow distr., 7. 1962, on *Pinus silvestris*, mixed wood, lgt. Starý.

Praon dorsale (Haliday, 1833)

Distribution: Europe, Central Asia.

Habitat: Steppe, in cultivated areas it occurs in meadows, waste places, fields (also in irrigated lands in C. Asia).

Host-specificity: A parasite of *Dactynotus*-species.

Hosts and localities in USSR: *Acyrtosiphon gossypii* Mordv.: Uzbekistan — Ordzhonikidzeabad r., Tashkent distr., 4.—5. 7. 1955, 5. 8. 1957, 8.—11. 6. 1956, 20.—22. 6. 1956, Achan-Taransky r., Tashkent distr., 15. 6. 1956, Yangi-Yulski r., Tashkent distr., 20. 7. 1955, Lunacarskoe, Tashkent distr., 11. 7. 1955, on *Gossypium hirsutum*, lgt. Luzhetzki. Tajikistan — Dushanbe, 2. 10. 1959, on *Gossypium hirsutum*, lgt. Ataeva, 6. 1962, on *Gossypium hirsutum* field, lgt. Starý. Turkmenia — Hadzhiabadsky r., Ashkhabad distr., 21. 7. 1957, on *Gossypium hirsutum* lgt. Karimov. *Acyrtosiphon pisum* (Harris) — Uzbekistan — Yangi-Yulski r., Tashkent distr., 6. 1962, on *Medicago sativa*, a field nearby a cotton field, lgt. P. Starý. *Dactynotus carthami* Hrl.: Crimea — Alushta, 7. 1960, on *Carthamus lanatus*, lgt. Holman. *Dactynotus obscurus* (Koch): Eur. part — Kryukovo, Moscow distr., 26. 6. 1960, on *Hieracium auricula*, lgt. Holman. *Dactynotus sonchi* (L.): Eur. part — Tshashnikov, Chimkinsky distr., 7. 1954, on *Sonchus* sp., lgt. Holman.

Praon exoletum (Nees, 1811)

Distribution: Europe, Asia Minor, C. Asia (introduced into USA).

Habitat: Steppe, fields (also in irrigated lands of C. Asia).

Host-specificity: A parasite of *Therioaphis*-species.

Hosts and localities in USSR: *Therioaphis* sp. — Uzbekistan, Yangi-Yulski r., Tashkent distr., 6. 1962, on *Medicago sativa*, a field nearby a cotton field, lgt. Starý. Lunatsharskoe, Tashkent distr., 30. 6. 1950, on *Medicago sativa*, lgt. Luzhetzki. Tajikistan — Ghissarsky chrebet, Kondara valley, 6. 1962, on *Medicago* sp., "tugai" shrubs, lgt. Starý Ziddy, Ghissarsky chrebet, 6. 1962, on *Medicago* sp., subalpine meadows, lgt. Starý.

Praon flavinode (Haliday, 1833)

Distribution: Europe, N. Africa, Asia Minor.

Habitat: Forest type, mixed and deciduous woods.

Host-specificity: A parasite of dendrophilous callaphidid aphids (*Eucallipterus*, *Tuberculooides*, etc.).

Hosts and localities in USSR: *Eucallipterus tiliae* (L.): Eur. part — Moscow, 7. 1962, on *Tilia* sp., park, lgt. Starý. Moscow-Sokol, 28. 6. 1957, on *Tilia cordata*, lgt. Holman.

Praon volucre (Haliday, 1833)

Distribution: Europe, C. Asia.

Habitat: Comparatively widely eurytopic species, occurring in orchards, parks, but also in meadows, fields and irrigated lands of C. Asia.

Host-specificity: A widely specialized parasite.

Hosts and localities in USSR: *Dactynotus ochropus* Hrl: Crimea — Alushta, 18. 7. 1960, lgt. Holman. *Hyalopterus pruni* (Deg.): Latvia — Kaliningrad, 18. 6. 1962, on *Prunus domestica*, lgt. Rupais. Azerbaidjan — Kuba, Kubinsky r., 7. 1962, on *Prunus persica*, orchard, lgt. Starý. Gonagkend, Kubinsky r., 7. 1962, on *Prunus domestica*, orchard, lgt. Starý. Uzbekistan — Ferganskaya reg., 10. 6. 1957, on *Prunus persica*, lgt. Luzhetzki. Yangi-Yulski r., Tashkent distr., 6. 1962, on *Phragmites communis*, near irrigating ditch, lgt. Starý. *Hyperomyzus lactucae* (L.): Azerbaidjan — Kuba, Kubinsky r., 7. 1962, on *Sonchus* sp., waste-place, lgt. Starý. *Macrosiphum rosae* (L.): Crimea — Alushta, 28. 7. 1960, on *Rosa* sp., lgt. Holman. Eur. part — Moscow, Leninskye gory, 7. 1962, on *Rosa* sp., lgt. Starý. *Macrosiphoniella* sp.: Eur. part — Moscow, Leninskye gory, 1. 7. 1957, on *Achillea* sp., lgt. Holman. *Myzodes persicae* Sulz.: Kirgizia — Frunze, 30. 7. 1961, 8. 9. 1960, on *Nicotiana* sp., field, lgt. Zagorovsky. *Sitobium fragariae* (Walk.): Crimea — Tshatyr-Dag, 7. 1960, on *Melica* sp., lgt. Holman. *Aphidoidea* spp.: Crimea — Jalta, Nikitinsky bot. sad, 19. 6. 1950, on *Prunus avium*, lgt. Rubtzov. Ditto, 23. 6. 1949, on *Prunus persica*, lgt. Rubtzov. Uzbekistan — Kubasaysky r., Fergana distr., 4. 5. 1957, on *Pirus* sp., lgt. Luzhetzki.

Praon spp.

Hosts and localities in USSR: *Dactynotus tanacetii* (L.): Eur. part — Abramtzevo, 7. 1962, on *Tanacetum vulgare*, meadow, lgt. Holman. *Euceraphis* sp.: Eur. part — Abramtzevo, 7. 1962, on *Betula verrucosa*, mixed wood, lgt. Starý.

Protaphidius wissmannii (Ratzeburg, 1848)

Distribution: Europe, ? Far East.

Habitat: Forest type, deciduous and mixed woods.

Host-specificity: A parasite of *Stomaphis*-species.

Hosts and localities in USSR: *Stomaphis quercus* (L.): Latvia — Park Bebrene, 17. 7. 1961, on *Betula verrucosa*, lgt. Rupais.

Pauesia chlorata (Telenga, 1953)

Distribution: Central Asia.

Habitat: Cultivated areas, coniferous woods of Central Asia.

Host-specificity: A parasite of lachnid species (*Cinara, Pterochloroides*).

Hosts and localities in USSR: *Pterochloroides persicae* Chol.: Uzbekistan — St. Shredera, 4. 9. 1958, on *Prunus amygdalus*, lgt. Luzhetzki. *Cinara juniperinum* Mordv.: Tajikistan — Sary-Khasor, 20. 8. 1959, 24. 8. 1959, lgt. Ataeva.

***Pauesia infolata* (Haliday, 1834)**

Distribution: Europe, Far East (Japan).

Habitat: Coniferous and mixed woods.

Host-specificity: A parasite of cinarine aphids.

Hosts and localities in USSR: *Cupressobium juniperi* (Deg.): Eur. part — Zvenigorod, Moscow, distr., 6. 1955, on *Juniperus communis*, lgt. Holman.

***Pauesia unilachni* (Gahan, 1926)**

Distribution: Europe, S. China, Taiwan, S. Korea.

Habitat: Coniferous and mixed woods.

Host-specificity: A parasite of *Schizolachnus*-species.

Hosts and localities in USSR: *Schizolachnus pineti* (F.): Latvia — Riga, 28. 6. 1961, on *Pinus silvestris*, lgt. Rupais. Eur. part — Abramtzevo, Moscow distr., 6. 1962, on *Pinus silvestris*, mixed wood, lgt. Starý.

***Pauesia* sp.**

Hosts and localities in USSR: *Cinara* sp.: Eur. part — Abramtzevo, Moscow distr., 7. 1962, in *Pinus silvestris*, lgt. Starý.

***Diaeretus leucopterus* (Haliday, 1834)**

Distribution: Europe, Japan, S. Korea.

Habitat: Coniferous and mixed woods.

Host-specificity: A parasite of *Protolachnus*-species.

Hosts and localities in USSR: *Protolachnus* sp.: Eur. part — Abramtzevo, Moscow distr., 7. 1962, on *Pinus silvestris*, lgt. Starý.

***Aphidius absinthii* Marshall, 1896**

Distribution: Europe, S. Korea, Japan, Taiwan.

Habitat: Steppe, in a lower degree in gardens, meadows, long-gallow lands.

Hosts and localities in USSR: *Macrosiphoniella absinthii* (L.): Eur. part — Moscow, 7. 1960, on *Artemisia absinthium*, lgt. Holman. *Macrosiphoniella millefolii* (Deg.): Eur. part — Moscow, Leninskye gory, 6. 1962, on *Achillea millefolium*, lgt. Holman. *Macrosiphoniella* spp.: Crimea — Angarsky pereval, 7. 1960, on *Anthemis tinctoria*, lgt. Holman. Georgia — Tbilisi, Botan. garden, 30. 5. 1961, lgt. Achvlediani. Azerbaidjan — Ryuk, Kubinsky distr., 7. 1962, on *Artemisia* sp., lgt. Starý. Tajikistan — Kondara, Gissarsky chrebet, 6. 1962, on *Artemisia draconi*, "tugai" shrubs, lgt. Starý. Ziddy, Gissarsky chrebet, 3.000 m. above sea level, on *Artemisia* sp., subalpine meadow, lgt. Starý.

***Aphidius avenae* Haliday, 1834**

Distribution: Europe, S. Africa, Asia Minor.

Habitat: Steppe, cultivated steppe areas.

Host-specificity: A parasite of *Sitobium*-species.

Hosts and localities in USSR: *Sitobium avenae* (F.): Crimea — Alushta, 7. 1960, on *Hordeum* sp., lgt. Holman.

***Aphidius bispinosus* Telenga, 1958**

Distribution: Central Asia (Turkmenia).

Habitat, etc.: Unknown.

Hosts and localities in USSR: "Turkmenia."

Aphidius ervi Haliday, 1834

Distribution: Europe, N. Africa, Central Asia.

Habitat: Steppe, cultivated steppe areas.

Host-specificity: A parasite of *Acyrtosiphon*-species in steppe type habitats.

Hosts and localities in USSR: *Acyrtosiphon caraganae* Chol.: Eur. part — Moscow, 7. 1962, on Caragana arborescens, lgt. Starý. Latvia — Kaliningrad, 17. 6. 1962, on Caragana arborescens, lgt. Rupais. *Acyrtosiphon pisum* (Harris): Eur. part — Moscow, Leninskye gory, 7. 1962, on Trifolium sp., lgt. Starý. Uzbekistan — Durmen, Tashkent distr., 2. 7. 1955, on Medicago sp., lgt. Luzhetzki. Lunatsharskoe, Tashkent distr., 26. 4. 1955, on Medicago sp., lgt. Luzhetzki.

Aphidius funebris Mackauer, 1961

Distribution: Eruope, N. Africa.

Habitat: Steppe, in cultivated areas it occurs in meadows, gardens, long-fallow lands.

Host-specificity: A parasite of *Dactynotus*-species.

Hosts and localities in USSR: *Dactynotus cichorii* (Koch): Abramtzevo, Moscow distr., 7. 1962, on Crepis paludosa, lgt. Starý. *Dactynotus jaceae* (L.): Eur. part — Abramtzevo, Moscow distr., 7. 1962, on Centaurea jacea, meadow, lgt. Starý. Georgia — Tetchrchlebi, 29. 7. 1961, lgt. Achvlediani.

Aphidius hieraciorum Starý, 1962

Distribution: Europe.

Habitat: Forest type — mixed and deciduous woods, parks.

Host-specificity: A parasite of *Nasonovia*-species.

Hosts and localities in USSR: *Nasonovia* sp.: Ukraine — Kiev, 6. 1956, on Hieracium pilosella, lgt. ?

Aphidius hortensis Marshall, 1896

Distribution: Europe, Nearctic reg.

Habitat: Forest type — mixed and deciduous woods, parks.

Host-specificity: A parasite of *Liosomaphis berberidis* (Kalt.).

Hosts and localities in USSR: *Liosomaphis berberidis* (Kalt.): Georgia — Kodzhori, env. of Tbilisi, 7. 1962, on Berberis vulgaris, lgt. Starý.

Aphidius ivanovae Telenga, 1958

Distribution: Central Asia (Turkmenia).

Hosts and localities in USSR: *Acyrtosiphon* sp.: Turkmenia.

Aphidius megourae, n. sp.

Distribution: Europe (Czechoslovakia, Eur. part of USSR).

Habitat: Forest meadows.

Host-specificity: A parasite of *Megoura viciae* Bckt.

Hosts and localities in USSR: *Megoura viciae* Bckt.: Eur. part — Abramtzevo, Moscow distr., 7. 1962, on Vicia sp., a meadow in a mixed wood, lgt. Starý.

Aphidius pterocommae Ashmead, 1889

Distribution: Europe, Central Asia (Kazakhstan), Nearctic reg.

Habitat: Forest type — mixed and deciduous woods, parks.

Host-specificity: A parasite of *Pterocomma*-species.

Hosts and localities in USSR: *Pterocomma salicis* (L.): West Siberia — Ordynsky r., Novosibirsk. reg., 17. 8. 1961, on Salix sp., lgt. Ivanovskaya-Shubina. *Pterocomma* spp.: Eur. part — Abramtzevo, Moscow distr., 7. 1962, on Salix sp., mixed wood, lgt. Starý. Kazakhstan — Janvartzevo, bank of r. Ural, 1. 6. 1950, on Populus sp., lgt. Rubtzov.

Aphidius ribis Haliday, 1834

Distribution: Europe, Nearctic reg.

Habitat: Forest type, deciduous and mixed woods, parks, orchards.

Host-specificity: A parasite of *Cryptomyzus*, *Myzella*-species.

Hosts and localities in USSR: *Cryptomyzus ribis* (L.): Eur. part — Abramtzevo, Moscow distr., 7. 1962, on *Ribes* sp., park, lgt. Starý. Moscow-Leninskye gory, 7. 1955, on *Ribes* sp., park, lgt. Holman. Latvia — sovchoz "Skhibe", 26. 6. 1958, on *Ribes rubrum*, lgt. Rupais.

Aphidius rosae Haliday, 1833

Distribution: Europe, N. Africa, Nearctic reg.

Habitat: Forest type — orchards, parks.

Host-specificity: A parasite of *Macrosiphum rosae* (L.).

Hosts and localities in USSR: *Macrosiphum rosae* (L.): Eur. part — Moscow, Leninskye gory, 7. 1962, on *Rosa* sp., park, lgt. Starý. Abramtzevo, Moscow distr., 7. 1962, on *Rosa* sp., mixed wood, lgt. Starý. Zhuravlevo, Kaliningr. distr., 10. 8. 1962, on *Rosa rugosa*, lgt. Rupais. Kaliningrad, Botan. garden, 16. 6. 1962, 12. 8. 1962, 10. 8. 1962, on *Rosa* sp., *Rosa* cult., lgt. Rupais. Latvia — Salaspils, Botan. garden, 26. 7. 1962, on *Rosa* cult., lgt. Rupais. Crimea — Alushta, 5. 7. 1960, on *Rosa* sp., 28. 7. 1960, on *Rosa* sp., lgt. Holman. Jalta, Nikitinsky Botan. sad, 12. 6. 1949, 26. 7. 1949, on *Rosa* sp., lgt. Rubtsov. Georgia — Kachaberí, env. Batumi, 28. 6. 1959, on *Rosa* sp., lgt. Achvlediani.

Aphidius setiger Mackauer, 1961

Distribution: Europe, Transcaucasia.

Habitat: Forest type — deciduous and mixed woods, parks.

Host-specificity: A parasite of *Periphyllus*-species.

Hosts and localities in USSR: *Periphyllus* sp.: Georgia — Tbilisi, Botan. garden, 7. 1962, on *Acer campestre*, lgt. Starý.

Aphidius sicarius Mackauer, 1961

Distribution: Europe.

Habitat: Forest type — deciduous and mixed woods.

Host-specificity: A parasite of *Kallistaphis*-species.

Hosts and localities in USSR: *Glyphina betulae* Bckt.: West Siberia — Ordynsky r., Novosibirsk reg., 24. 6. 1961, on *Betula* sp., lgt. Ivanovskaya-Shubina.

Aphidius transcaspicus Telenga, 1958

Distribution: Central Asia (Turkmenia, Uzbekistan).

Habitat: Parks, orchards.

Hosts and localities in USSR: *Hyalopterus pruni* (Geoffr.): Uzbekistan — Tashkent. distr., on *Phragmites communis*, *Prunus armeniaca*, *Prunus domestica*. Turkmenia — on *Phragmites communis*, *Prunus armeniaca*, *Prunus domestica*.

Aphidius uzbekistanicus Luzhetzki, 1960

Distribution: Central Asia (Uzbekistan).

Hosts and localities in USSR: *Sipha maydis* (Pass.): Uzbekistan — Achan-Taran, Tashkent distr., 19. 6. 1956, on corn, lgt. Luzhetzki.

Aphidius spp.

Hosts and localities in USSR: *Aphis jacobae* Schrk.: West Siberia-Ordynsky r., Novosibirsk. reg., 1960, lgt. Ivanovskaya-Shubina. *Dysaphis lappae* (Koch): Tajikistan — Sary Khasor, 22. 8. 1959, lgt. Ataeva. *Euceraphis nigripennis* Zett.: West Siberia — Ordynsky r., Novosibirsk. reg., 2. 6. 1961, lgt. Ivanovskaya-Shubina. *Macrosiphum aktashicum* Nevs.: Tajikistan — Romit, Gissarsky chrebet, 30. 7. 1959, lgt. Ataeva. *Aphidoidea* sp.: Tajikistan — Romit, Gissarsky chrebet, 6. 1962, on *Lonicera* sp., tugai shrubs, lgt. Ataeva.

Lysaphidus arvensis Starý, 1960

Distribution: Europe.

Habitat: Steppe type — meadows, long-fallow lands.

Host-specificity: A parasite of *Coloradoa*-species.

Hosts and localities in USSR: *Coloradoa achilleae* Hrl.: Eur. part — Moscow, Leninskye gory, 7. 1962, on *Achillea millefolium*, meadow, lgt. Starý.

Diaeretiella rapae (M'Intosh, 1855)

Distribution: Almost cosmopolitan.

Habitat: Steppe and cultivated steppe.

Host-specificity: A parasite of myzine aphids.

Hosts and localities in USSR: *Brevicoryne brassicae* (L.): Uzbekistan — Kuvasaisky r., 2. 7. 1957, Karasuisky r., Tashkent reg., 29. 8. 1957, 1. 9. 1955, 2. 7. 1956, 1. 7. 1957, Kaliningr. r., kolchoz Achunbabaeva, 9. 9. 1956, lgt. Luzhetzki. Tajikistan — Dushanbe, kolchoz Lenina, 21. 7. 1956, 29. 10. 1959, lgt. Ataeva. *Hayhurstia atriplicis* (F.): Eur. part — Moscow, 9. 1962, on *Chenopodium* sp., waste place, lgt. Starý. Azerbaidjan — Kuba, Kubinsky r., 7. 1962, on *Chenopodium* sp., waste place, lgt. Starý. *Myzaphis beibienkoi* Narz.: Tajikistan — Kondara valley, Gissarsky chrebet, 9. 10. 1956, lgt. Ataeva. *Myzodes persicae* Sulz.: Georgia — Soranluchi, env. of Tbilisi, 21. 4. 1961, lgt. Achvlediani. Kirgizia — Frunze, 30. 8. 1961, 9. 9. 1960, on *Nicotiana* sp., lgt. Zagorovsky.

Lysiphlebus ambiguus (Haliday, 1834)

Distribution: Europe, Asia Minor, Central Asia, Transcaucasia.

Habitat: In Central Europe it occurs in forest and intermediate habitats (*Salix* shrubs, etc.) but also in meadows. In Central Asia it spreads from forest habitats — *Salix* belts, etc. into the desert in the neighbourhood (cotton fields).

Host-specificity: A parasite of *Aphis*-species.

Hosts and localities in USSR: *Aphis brachysiphon* Narz.: Tajikistan — 30. 10. 1959, lgt. Ataeva. *Aphis craccivora* Koch — Uzbekistan — Ferghana distr., 30. 5. 1957, lgt. Luzhetzki. Yangi-Yulski r., Tashkent distr., 6. 1962, lgt. Luzhetzki. Tajikistan — Sary Khasor, 10. 10. 1959, lgt. Ataeva. Okr. Dzhilikul, bank of r. Vaksh, 6. 1962, lgt. Starý. Dushanbe, 6. 1962, on *Robinia pseudoacacia*, park, lgt. Starý. *Aphis fabae* Scop.: Crimea — Alushta, 7. 1960, on *Cirsium incanum*, lgt. Holman. Eur. part — Moscow, Leninskye gory, 7. 1954, on *Carduus crispus*, lgt. Holman. Ditto, 5. 1954, on *Heracleum sibiricum*, lgt. Holman. West Siberia — Slavograd, 1960, lgt. Ivanovskaya Shubina. *Aphis farinosa* Gmel.: Georgia — Achanisokeli, 25. 6. 1961, on *Salix caprea*, lgt. Achvlediani. Uzbekistan — Yangi-Yulski r., Tashkent reg., 6. 1962, on *Salix* sp., shrubs near an irrig. ditch, lgt. Starý. Tajikistan — Uzum, 6. 1962, on *Salix* sp., shrubs near an irrig. ditch, lgt. Starý. *Aphis gentianae* Börn.: Crimea — Angarsky pereval, 7. 1960, on *Gentiana cruciata*, lgt. Holman. *Aphis urticata* (L.): Georgia — Madikvari, 30. 7. 1961, on *Urtica urens*, lgt. Achvlediani. *Aphis* spp.: Georgia — Tetrchrcchlebi, 29. 7. 1961, Gombori, 31. 7. 1961, on *Lavatera thuringica*, lgt. Achvlediani. Tajikistan — Dushanbe, 6. 1962, semidesert, Ditto, 6. 1962, on *Hypericum perforatum*, tugai shrubs, Kondara valley, Gissarsky chrebet, 6. 1962, on *Malva* sp., Ditto, on *Cichorium intybus*, 6. 1962, semidesert, Ditto, on *Medicago* sp., 6. 1962, subalpine meadow, Env. of Dzhilikul, bank of r. Vaksh, on *Lycium* sp., 6. 1962, lgt. Starý. *Brachycaudus cardui* (L.): Georgia — Tetrchrcchlebi, 31. 7. 1961, lgt. Achvlediani. *Brachycaudus* sp.: Georgia — Gombori, 31. 7. 1961, lgt. Achvlediani. *Dysaphis devector* (Walk.): Eur. part — Moscow, Leninskye gory, 5. 1954, on *Heracleum sibiricum*, lgt. Holman. *Aphidoidea* spp.: Georgia — Gardabani, 13. 7. 1961, on *Zygophyllum fabago*, lgt. Achvlediani. Batumi, 20. 9. 1961, on *Pirus communis*, lgt. Achvlediani. Azerbaidjan — Ryuk, Kubinsky r., 7. 1962, subalpine meadow, lgt. Starý. Tajikistan — Kok-Tau, Tyuannazarsky pereval, 6. 1962, semidesert, lgt. Starý.

Lysiphlebus arvicola Starý, 1961

Distribution: Europe, Central Asia.

Habitat: Steppe type, in cultivated areas in meadows, balks, etc.

Host-specificity: A parasite of *Sipha*-species.

Hosts and localities in USSR: *Sipha maydis* (Pas.): Tajikistan — Dushanbe, kolchoz Lenina, 24. 10. 1959, lgt. Ataeva. *Sipha* sp.: Eur. part — Moscow distr., Abramtzevo, 7. 1962, on Calamagrostis epigeios, meadow, lgt. Starý. *Aphidoidea* spp.: Tajikistan — Kok-Tau, Tyuannazarski pereval, 6. 1962, semidesert, lgt. Starý.

***Lysiphlebus desertorum*, n. sp.**

Distribution: Central Asia (Uzbekistan).

Habitat: Semidesert.

Host-specificity: Probably a specialized parasite (host undetermined, an leaf-curling aphid on Achillea sp.).

Hosts and localities in USSR: *Aphidoidea* sp. (leaf-curling aphids on Achillea sp.): Uzbekistan — Yangi-Yulski r., Tashkent reg., 7. 1962, on Achillea sp., lgt. Starý.

***Lysiphlebus fabarum* (Marshall, 1896)**

Distribution: Euproepe, N. Africa, Asia Minor, Central Asia.

Habitat: Steppe type, meadows, gardens, in Central Asia in irrig. areas.

Host-specificity: A parasite of *Aphis* and *Brachycaudus*-species.

Hosts and localities in USSR: *Aphis craccivora* Koch: Tajikistan — Dushanbe, 20. 6. 1959, lgt. Ataeva. Uzbekistan — Yangi-Yulski r., Tashkent reg., 19. 6. 1950, 30. 6. 1956, lgt. Luzhetzki. Ordzhonikidze, 21. 7. 1960, 5. 6. 1955, lgt. Luzhetzki. Ochongoransky r., Tashkent reg., 18. 6. 1956, on Medicago sativa, lgt. Luzhetzki. Kubinsky r., Fergana reg., 24. 6. 1957, lgt. Luzhetzki. Gortshakovo, Fergana reg., 24. 6. 1957, lgt. Luzhetzki. Fergana r., Fergana reg., 8. 6. 1950, lgt. Luzhetzki. Akhun Babaevsky r., Fergana reg., 2. 6. 1950, lgt. Luzhetzki. *Aphis ephedrae* Nevs.: Tajikistan — Dushanbe, 20. 6. 1959, lgt. Ataeva. *Aphis fabae* Scop.: Eur. part — Moscow, Leninskye gory, 7. 1954, on Cirsium arvense, Carduus crispus, Spiraea sp., lgt. Holman. Crimea — Alushta, 22. 6. 1961, on Solanum nigrum, lgt. Holman. Georgia — Achanisokeli, 22. 6. 1961, on Carduus sp., lgt. Achvlediani. Uzbekistan — Tashkent reg., 1. 6. 1956, lgt. Luzhetzki. *Aphis gossypii* Glov.: Uzbekistan — Yangi-Yulski r., Tashkent reg., 6. 1962, lgt. Starý, 5. 7. 1950, lgt. Luzhetzki. Lunatsharskoe, Tashkent reg., 16. 7. 1955, 1. 6. 1955, 18. 6. 1955, 24. 5. 1959, 30. 5. 1955, 1. 6. 1956, on Gossypium hirsutum, lgt. Luzhetzki. Ordzhonikidze, 23. 5. 1956, 4. 6. 1956, on Gossypium hirsutum, lgt. Luzhetzki. Oktjabrsky r., Tashkent reg., 7. 11. 1956, on Gossypium hirsutum, lgt. Luzhetzki. *Aphis umbrella* (Börn.): Uzbekistan — Yangi-Yulski r., Tashkent reg., 6. 1962, on Malva nigriflora, near an irr. ditch, lgt. Starý. *Aphis* spp.: Crimea — Alushta, 7. 1960, on Anagallis coerulea, Capsella bursa-pastoris, lgt. Holman. Georgia — Gombori, 31. 7. 1961, lgt. Achvlediani. Tbilisi, 10. 7. 1961, Saburamo, 6. 6. 1961, lgt. Achvlediani. Azerbaidjan — Kuba, Kubinsky r., 7. 1962, on Solanum sp., lgt. Starý. Uzbekistan — Tashkent, Botan. garden, 6. 1962, lgt. Starý. Tajikistan — Romit, Gissarsky chrebet, 6. 1962, on Mentha sp., tugai shrubs, lgt. Starý. *Brachycaudus cardui* (L.): Georgia — Tetrchrcchlebi, 29. 7. 1961, on Carduus, lgt. Achvlediani. *Dysaphis crataegi* (Kalt.): Tajikistan — Dushanbe, 11. 5. 1959, lgt. Ataeva. *Dysaphis lappae* (Koch): Tajikistan — Ziddy, Gissarsky chrebet, lgt. Ataeva. *Pemphigus lichtensteini* Tullgr.: Georgia — Gardabani, 13. 7. 1961, on Populus pyramidalis, lgt. Achvlediani. *Aphidoidea* spp.: Georgia — Batumi, on Chrysanthemum, lgt. Achvlediani. Achanisokeli, 22. 6. 1961, on Carduus, lgt. Achvlediani.

***Lysiphlebus fritzmulleri* Mackauer, 1960**

Distribution: Europe, West Siberia.

Habitat: Steppe type, meadows.

Host-specificity: A parasite of *Aphis cracciae* (L.).

Hosts and localities in USSR: *Aphis cracciae* (L.): Eur. part — Moscow, Leninskye gory, 7. 1962, on Vicia cracca, meadow, lgt. Starý. Abramtzevo, Moscow distr., 7. 1954, on Vicia sp., meadow, lgt. Holman, 7. 1962, lgt. Starý. West Siberia — Ordynsky r., Novosibirsk reg., 6. 1961, lgt. Ivanovskaya Shubina.

Lysiphlebus salicaphis (Fitch, 1855)

Distribution: Europe, Central Asia, S. Korea, Nearctic reg.

Habitat: Forest and intermediate type, deciduous and mixed woods, in Central Asia in oases.

Host-specificity: A parasite of *Chaitophorus*-species.

Hosts and localities in USSR: *Chaitophorus albus* Mordv.: Tajikistan — Dushanbe, 9. 11. 1959, lgt. Ataeva. *Chaitophorus leucomelas* Koch: Tajikistan — Dushanbe, 9. 10. 1959, lgt. Ataeva. *Chaitophorus niger* Mordv.: West Siberia — Ordynsky r., Novosibirsk reg., 24. 6. 1961, lgt. Ivanovskaya Shubina. *Chaitophorus salicivorus* Walk.: Tajikistan — Kulyab, lgt. Ataeva. *Neothomasia populicola* (Baker): Uzbekistan — Tashkent reg., 27. 5. 1956, 25. 5. 1958, on *Populus* sp., lgt. Luzhetzki. *Aphidoidea* spp.: Kazakhstan — Janvar-tzevo, bank of r. Ural, 24. 6. 1961, on *Populus* sp., lgt. Rubtzov. Uzbekistan — Lunatsharskoe, Tashkent reg., 10. 6. 1959, 29. 6. 1956, 27. 5.—4. 6. 1955, on *Salix*, lgt. Luzhetzki, Andizhan r., 30. 5. 1957, on *Populus* sp., lgt. Lutzhetzki. Ordonikidzeabad r., 25. 5. 1957, on *Populus*, Makovsky r., Andizhan reg., 1. 6. 1957, on *Salix*, Tashkent r., 12. 6. 1955, on *Populus*, lgt. Luzhetzki.

Lysiphlebus thelaxis Starý, 1961

Distribution: Europe.

Habitat: Forest type, deciduous and mixed woods.

Hosts-specificity: A parasite of *Thelaxes*-species.

Hosts and localities in USSR: *Thelaxes dryophila* (Schrk.): Eur. part — Abram-tzevo, Moscow distr., 7. 1962, on *Quercus* sp., mixed wood, lgt. Starý.

Trioxys acalephae (Marshall, 1896)

Distribution: Europe.

Habitat: A widely eurytopic species but mostly in steppe and intermediate type habitats.

Host-specificity: A parasite of *Aphis*-species.

Hosts and localities in USSR: *Aphis craccae* (L.): Eur. part — Abramtzevo, Moscow distr., 7. 1962, on *Vicia cracca*, lgt. Starý West Siberia — Ordynsky r., Novosibirsk reg., 6. 1961, on *Vicia* sp., lgt. Ivanovskaya Shubina.

Trioxys angelicae (Haliday, 1833)

Distribution: Europe.

Habitat: Forest and intermediate type, edges of woods, parks and orchards.

Host-specificity: The main hosts belong to the genus *Aphis*, but it attacks also a number of other hosts (*Ceruraphis*, etc.).

Hosts and localities in USSR: *Aphis fabae* Scop.: Eur. part — Moscow, Leninskye gory, 7. 1962, on *Philadelphus coronarius*, park, lgt. Starý. Ditto, 7. 1962, on *Spiraea* sp., lgt. Starý. *Aphis farinosa* Gmel.: Eur. part — Abramtzevo, Moscow distr., 7. 1962, on *Salix* sp., deciduous wood, lgt. Starý. *Aphis pomi* Deg.: Latvia — Riga, 29. 7. 1962, on *Cotoneaster lucida*, lgt. Rupais. *Aphis sambuci* L.: Eur. part — Kaliningrad, 17. 6. 1962, on *Sambucus nigra*, lgt. Rupais. *Aphidae* sp.: Latvia — Salaspils, 26. 7. 1962, on *Rubus* sp., lgt. Rupais.

Trioxys asiaticus Telenga, 1953

Distribution: Central Asia, Asia Minor, Far East.

Habitat: Semidesert and cultivated desert areas.

Host-specificity: A parasite of *Acyrtosiphon gossypii gossypii* Mordv.

Hosts and localities in USSR: *Acyrtosiphon gossypii gossypii* Mordv.: Uzbekistan — Lunatsharskoe, Tashkent reg., 5. 8. 1955, on *Gossypium hirsutum*, Oktjabrsky r., Tashkent reg., Yangi-Yulski r., Tashkent reg., 9. 6. 1949, lgt. Zvirina. Akhun Babaevsky r.,

Fergana reg., 7. 6. 1956, 20. 7. 1950, on *Gossypium hirsutum*, Ordzhonikidzeabadsky r., Tashkent reg., 1. 8. 1957, on *Gossypium hirsutum*, Fergana distr., 31. 7. 1950, on *Gossypium hirsutum*, lgt. Luzhetzki. Swept material: Far East — Suputinsky zapovednik, 8. 7. 1961, mixed wood, lgt. Kovalev. Primorye, 20. 7. 1961, lgt. Trjapicyn.

***Trioxys letifer* (Haliday, 1833)**

Distribution: Europe.

Habitat: Steppe and intermediate type, meadows, waste places.

Host-specificity: A parasite of myzine aphids (*Cavariella*, *Hyadaphis*).

Hosts and localities in USSR: *Cavariella archangelicae* (Scop.): Eur. part — Ab-ramtzevo, Moscow distr., 7. 1962, on *Salix* sp., mixed wood, lgt. Starý.

***Trioxys centaureae* (Haliday, 1833)**

Distribution: Europe.

Habitat: Steppe, in cultivated areas waste places, meadows.

Host-specificity: A parasite of *Dactynotus* and *Macrosiphoniella*-species.

Hosts and localities in USSR: *Dactynotus* sp.: Eur. part — Moscow, Serebr. bor, 5. 7. 1957, on *Solidago gigantea*, lgt. Holman.

***Trioxys cirsii* (Curtis, 1831)**

Distribution: Europe.

Habitat: Forest type, mixed and deciduous woods.

Host-specificity: A parasite of *Drepanosiphon platanoides* (Schrk.).

Hosts and localities in USSR: *Drepanosiphon platanoides* (Schrk.) Eur. part — Kaliningrad, 13. 8. 1962, on *Acer pseudoplatanus*, lgt. Rupais. Latvia — Park Aizviki, 15. 6. 1962, on *Acer pseudoplatanus*, lgt. Rupais.

***Trioxys complanatus* Quilis, 1931**

Distribution: S. Europe, Asia Minor, Central Asia (introd. into USA).

Habitat: Steppe type, fields.

Host-specificity: A parasite of *Therioaphis*-species.

Hosts and localities in USSR: *Therioaphis* sp.: Uzbekistan — Tashkent reg., 27. 6. 1955, on *Medicago* sp., lgt. Luzhetzki.

***Trioxys pallidus* (Halliday, 1833)**

Distribution: Europe (introd. into USA).

Habitat: Forest type — deciduous and mixed woods.

Host-specificity: A parasite of *Callaphididae*.

Hosts and localities in USSR: *Eucallipterus tiliae* (L.): Eur. part — Rostshino, Kaliningr. obl., 15. 8. 1962, on *Tilia cordata*, lgt. Rupais, *Myzocallis coryli* (Goetze): Eur. part. — Dobrovljansk, Kaliningr. reg., 26. 7. 1962, on *Corylus avellana*, lgt. Rupais. *Chromaphis juglandicola* (Kalt.): Tajikistan — Dushanbe, 2. 10. 1959, on *Juglans* sp., lgt. Ataeva. *Tinocallis saltans* (Nevs.): Tajikistan — Dushanbe, 13. 6. 1959, lgt. Ataeva. *Tuberculoides annulatus* (Htg.): Eur. part — Svetlogorsk, Kaliningrad reg., 15. 8. 1962, on *Quercus petraea*, 17. 6. 1962, on *Quercus robur*, lgt. Rupais.

***Trioxys* gr. "rietscheli Mackauer, 1959"**

Hosts and localities in USSR: Far East — Borisovka, Primorye, near Ussurijsk, 20. 7. 1961, lgt. Trjapicyn. Port Vjazemsky, Primorye, 20. 7. 1961, on *Spiraea*, lgt. Shuvachina.

***Trioxys* spp.**

Hosts and localities in USSR: *Cryptomyzus ribis* (L.): Eur. part — Moscow, Leninskye gory, 7. 1955, lgt. Holman. *Rhopalosiphum padi* (L.): Latvia — Salaspils, 30. 5. 1960, on *Padus racemosa*, lgt. Rupais.

Monoctonus crepidis [Haliday, 1834]

Distribution: Europe, Canada.

Habitat: Forest type (undergrowth).

Host-specificity: A parasite of *Nasonovia*-species.

Hosts and localities in USSR: Swept material: Latvia — Salaspils, 24. 7. 1962, lgt. Rupais.

Monoctonus ? nervosus [Haliday, 1833]

Distribution: Europe, Central Asia.

Habitat: Forest type (undergrowth).

Host-specificity: A parasite of *Impatiens balsamines* (Kalt.).

Hosts and localities in USSR: *Impatiens balsamines* (Kalt.): Uzbekistan — Tashkent reg., Bostandyksky r., 11. 7. 1959, on *Impatiens parviflora*, lgt. Luzhetskii.

Monoctonus pseudoplatani [Marshall, 1896]

Distribution: Europe.

Habitat: Forest type (mixed and deciduous forests).

Host-specificity: A parasite of *Drepanosiphon platanoides* (Schrk.).

Hosts and localities in USSR: *Drepanosiphon platanoides* (Schrk.): Eur. part — Kaliningrad, Botan. garden, 18. 6. 1962, on *Acer pseudoplatanus*, *Acer pseudoplatanus* f. *atropurpurea*, lgt. Rupais. Kaliningrad, 13. 8. 1962, on *Acer pseudoplatanus*, lgt. Rupais. Bolshakovo, Kaliningrad reg., 11. 8. 1962, on *Acer pseudoplatanus*, lgt. Rupais.

Monoctonia pistaciaecola Starý, 1961

Distribution: S. Europe, Central Asia.

Habitat: Forest type (parks), mountain forests, tugai shrubs.

Host-specificity: A parasite of gall-producing aphids (*Forda*, *Pemphigus*).

Hosts and localities in USSR: *Forda hirsuta mordwilkoii* Börn.: Crimea — Jalta, Nikitinsky Botan. sad, 8. 6. 1949, on *Pistacia* sp., lgt. Rubtzov. *Forda* sp.: Tajikistan — Ganzhino, Kok-Tau, 6. 1962, on *Pistacia* sp., mountain *Pistacia*-forest. lgt. Starý. *Pemphigus* sp.: Tajikistan — Romit, Gissarsky chrebet, 6. 1962, on *Populus* sp., lgt. Starý.

Lipolexis gracilis Förster, 1862

Distribution: Europe, Far East.

Habitat: Steppe type, more rarely edges of woods, orchards.

Host-specificity: A parasite of a number of aphids (*Aphis*, *Brachycaudus*, *Myzus*).

Hosts and localities in USSR: *Myzus cerasi* (F.): Eur. part — Moscow env., 7. 1962, on *Prunus cerasus*, park, lgt. Starý. Swept material: Far East — Suputinsky zapovednik, 3. 8. 1961, 2. 8. 1961, mixed wood, lgt. Trjapicyn. Env. of Vladivostok, 8. 7. 1961, 16. 7. 1961, 17. 7. 1961, grassy habitat, lgt. Kulov, Trjapicyn.

III. HOST AND PARASITE CATALOGUE

Fam.: Lachnidae

Subfam: Cinarinae

Cinara juniperinum Mordv.: *Pauesia chlorata* (Telenga) — Tajikistan.

Cinara sp.: *Pauesia* sp., *Pinus silvestris* — Eur. part of USSR.

Cupressobium juniperi Deg.: *Pauesia infulata* (Hal.), *Juniperus communis*, Eur. part of USSR.

Protolachnus sp.: *Praon bicolor* Mack., *Pinus silvestris* — Eur. part of USSR. *Diaeretus leucopterus* (Hal.) — *Pinus silvestris*, Eur. part of USSR.

Schizolachnus pineti (F.): *Pauesia unilachni* (Gah.), *Pinus silvestris*, Eur. part of USSR, Latvia.

Subfam.: Lachninae

Pterochloroides persicae Chol.: *Pauesia chlorata* (Tel.), *Prunus amygdalus*, Uzbekistan.
Stomaphis quercus (L.): *Protaphidius wissmannii* (Ratz.), *Betula verrucosa*, Latvia.

Fam.: Chaitophoridae

Subfam.: Siphinae

Sipha maydis (Pass.): *Lysiphlebus arvicola* Starý, *Festuca* sp., Tajikistan. *Aphidius uzbe-*
kistanicus Luzh., Uzbekistan.
Sipha sp.: *Ephedrus plagiator* (Nees), *Festuca pratensis*, Eur. part of USSR, *Lysiphlebus*
arvicola Starý, *Calamagrostis epigeios*, Eur. part of USSR.

Subfam.: Chaitophorinae

Chaitophorus albus Mordv.: *Lysiphlebus salicaphis* Fitch, Tajikistan.
Chaitophorus leucomelas Koch: *Lysiphlebus salicaphis* Fitch, Tajikistan.
Chaitophorus niger Mordv.: *Lysiphlebus salicaphis* Fitch, West Siberia.
Chaitophorus salicivorus Walk.: *Lysiphlebus salicaphis* Fitch, Tajikistan.
Neothomasia populicola (Baker): *Lysiphlebus salicaphis* Fitch, *Populus* sp., Uzbekistan.
Periphyllus sp.: *Aphidius setiger* Mack., *Acer campestre*, Georgia.

Fam.: Callaphididae

Subfam.: Phyllaphidinae

Drepanosiphon platanoidis (Schrk.): *Trioxys cirsi* (Curt.), *Acer pseudoplatanus*, Eur.
part of USSR, Latvia. *Monoctonus pseudoplatani* (Marsh.), *Acer pseudoplatanus*, Eur.
part of USSR.
Euceraphis punctipennis (Zett.): *Aphidius* sp., West Siberia.
Euceraphis sp.: *Praon* sp., *Betula verrucosa*, Eur. part of USSR.

Subfam.: Callaphidinae

Chromaphis juglandicola (Kalt.): *Trioxys pallidus* (Hal.), Tajikistan.
Eucallipterus tiliae (L.): *Troxys pallidus* (Hal.), *Tilia cordata*, Eur. part of USSR.
Praon flavinode (Hal.), *Tilia* sp., *Tilia cordata*, Eur. part of USSR.
Myzocallis coryli (Goetze): *Trioxys pallidus* (Hal.), *Corylus avellana*, Eur. part of USSR.
Tinocallis saltans (News.) *Trioxys pallidus* (Hal.), Tajikistan.
Tuberculoides annulatus (Htg.): *Trioxys pallidus* (Hal.), *Quercus robur*, Eur. part of
USSR.
Therioaphis sp.: *Praon exoletum* (Nees). *Medicago sativa*, Uzbekistan. *Trioxys complana-*
tus Quilis, *Medicago sativa*, Uzbekistan.

Fam.: Aphididae

Subfam.: Pterocommatinae

Pterocomma salicis (L.): *Aphidius pterocommae* Ashm., *Salix* sp., West Siberia.
Pterocomma sp.: *Aphidius pterocommae* Ashm., *Salix* sp., Eur. part of USSR.

Subfam.: Aphidinae

Aphis brachysiphon Narz.: *Lysiphlebus ambiguus* (Hal.), Tajikistan.
A. cracca (L.): *Lysiphlebus fritzmulleri* Mack., *Vicia cracca*, *Vicia* sp., Eur. part of
USSR, West Siberia. *Trioxys acalephae* (Marsh.), *Vicia cracca*, Eur. part of USSR.
Trioxys angelicae (Hal.), *Vicia* sp., West Siberia.
A. craccivora Koch: *Lysiphlebus ambiguus* (Hal.), *Robinia pseudoacacia*, Tajikistan,
Uzbekistan. *Lysiphlebus fabarum* (Marsh.), Tajikistan.
A. ephedrae Nevs.: *Lysiphlebus fabarum* (Marsh.), Tajikistan.
A. fabae Scop.: *Lysiphlebus ambiguus* (Hal.), *Carduus crispus*, *Hordeum sibiricum*, Eur.
part of USSR, West Siberia. *Lysiphlebus fabarum* (Marsh.), Uzbekistan, *Carduus* sp.,
Georgia, *Cirsium incanum*, Crimea, *Solanum nigrum*, Crimea, *Heracleum* sp., *Cirsium*
arvense, *Carduus crispus*, *Spiraea* sp., Eur. part of USSR. *Trioxys angelicae* (Hal.),
Philadelphus coronarius, *Spiraea* sp., Eur. part of USSR.
A. farinosa Gmel.: *Lysiphlebus ambiguus* (Hal.), *Salix caprea*, Georgia, *Salix* sp., Taji-
kistan, Uzbekistan. *Trioxys angelicae* (Hal.), *Salix* sp., Eur. part of USSR.

- A. gentianae* (Börn.): *Lysiphlebus ambiguus* (Hal.), *Gentiana cruciata*, Crimea.
A. gossypii Glov.: *Lysiphlebus fabarum* (Marsh.), Uzbekistan.
A. jacobae (Schrk.): *Aphidius* sp., West Siberia.
A. pomi Deg.: *Trioxys angelicae* (Hal.), *Cotoneaster lucida*, Latvia. *Ephedrus persicae* Frog., Tajikistan.
A. sambuci L.: *Trioxys angelicae* (Hal.), *Sambucus nigra*, Eur. part of USSR.
A. umbrellae (Börn.): *Lysiphlebus fabarum* (Marsh.), *Malva nigriflora*, Uzbekistan.
A. urticata (L.): *Lysiphlebus ambiguus* (Hal.), *Urtica urens*, Georgia.
A. spp.: *Lysiphlebus fabarum* (Marsh.), *Capsella bursa pastoris*, Crimea, *Solanum* sp., Azerbaidjan, *Mentha* sp., Tajikistan, Uzbekistan, *Lysiphlebus ambiguus* (Hal.) Georgia, *Lycium* sp., Tajikistan, *Lavatera thuringica*, Georgia, *Hypericum perforatum*, Tajikistan, *Medicago* sp., Tajikistan, *Malva* sp., Tajikistan, *Cichorium intybus*, Tajikistan, *Praon abjectum* (Hal.), *Epilobium parviflorum*, Eur. part of USSR, *Ephedrus plagiator* (Nees), *Roripa islandica*, Eur. part of USSR.
Hyalopterus pruni (Geoffr.): *Aphidius transcaspicus* Tel., *Phragmites communis*, *Prunus armeniaca*, *Prunus domestica*, Uzbekistan, Turkmenia, *Ephedrus plagiator* (Nees), *Prunus cerasifera*. Latvia, Crimea. *Praon volucre* (Hal.), Crimea, *Prunus domestica*, Eur. part of USSR, *Prunus persica*, *Phragmites communis*, Uzbekistan, *Prunus persica*, *Prunus domestica*, Azerbaidjan.
Rhopalosiphum oxyacanthae (Schrk.): *Ephedrus plagiator* (Nees), *Malus silvestris*, Eur. part of USSR.
Rhopalosiphum padi (L.): *Trioxys* sp., *Padus racemosa*, Latvia.

Subfam.: Anuraphidinae.

- Brachycaudus cardui* (L.) *Lysiphlebus ambiguus* (Hal.), Georgia. *Lysiphlebus fabarum* (Marsh.), *Cirsium* sp., Georgia.
Brachycaudus sp.: *Lysiphlebus ambiguus* (Hal.), Georgia.
Ephedrus plagiator (Nees), *Tamarix hohenackeri*, Georgia.
Dysaphis crataegi (Kalt.): *Ephedrus persicae* Frog., Tajikistan. *Lysiphlebus fabarum* (Marsh.), Tajikistan.
Dysaphis devecta (Walk.): *Lysiphlebus ambiguus* (Hal.), *Heracleum sibiricum*, Eur. part of USSR, *Ephedrus plagiator* (Nees), Crimea.
Dysaphis lappae (Koch): *Lysiphlebus fabarum* (Marsh.), Tajikistan. *Aphidius* sp., Tajikistan.
Dysaphis sorbiarum Narz.: *Ephedrus persicae* Frog., Tajikistan.
Roepkea marchali (Börn.): *Ephedrus persicae* Frog., *Prunus mahaleb*, Georgia.

Subfam.: Myzinae

- Brevicoryne brassicae* (L.): *Diaeretiella rapae* (M'Int.), Uzbekistan, Tajikistan.
Cavaraiaella archangelicae (Scop.): *Trioxys letifer* (Hal.), *Salix* sp., Eur. part of USSR.
Coloradoa achilleae HRL.: *Lysaphidus arvensis* Starý, *Achillea millefolium*, Eur. part of USSR.
Cryptomyzus ribis (Hal.): *Trioxys* sp., *Ribes* sp., Eur. part of USSR. *Aphidius ribis* Hal., *Ribes* sp., Eur. part of USSR, *Ribes rubrum*, Eur. part of USSR, Latvia.
Hayhurstia atriplicis (F.): *Diaeretiella rapae* (M'Int.), *Chenopodium* sp., Azerbaidjan, Eur. part of USSR.
Hayhurstia tataricae Aizenb.: *Ephedrus persicae* Frog., *Lonicera tatarica*, Eur. part of USSR.
Hyperomyzus lactucae (L.): *Praon volucre* (Hal.), *Sonchus* sp., Azerbaidjan.
Impatientinum balsamines (Kalt.): *Monoctonus* ? *nervosus* (Hal.), *Impatiens parviflora*, Uzbekistan.
Liosomaphis berberidis (Kalt.): *Aphidius hortensis* Marsh., *Berberis vulgaris*, Georgia.
Myzaphis beibienkoi Narz.: *Diaeretiella rapae* (M'Int.), Tajikistan.
Myzodes persicae Sulz.: *Diaeretiella rapae* (M'Int.), *Nicotiana* sp., Georgia. *Praon volucre* (Hal.), *Nicotiana* sp., Kirgizia.
Myzus cerasi (F.): *Ephedrus persicae* Frog., Georgia. *Ephedrus* sp., *Prunus avium*, Azerbaidjan. *Lipolexis gracilis* Först., *Prunus cerasus*, Eur. part of USSR.
Nasonovia sp.: *Aphidius hieraciorum* Starý, *Hieracium pilosella*, Ukraine.
Rhopalomyzus lonicerae (Sieb.): *Ephedrus plagiator* (Nees), *Lonicera tatarica*, Eur. part of USSR.

Subfam.: Dactynotinae

- Acyrtosiphon caraganae* Chol.: *Aphidius ervi* Hal., Caragana arborescens, Eur. part of USSR.
- Acyrtosiphon gossypii gossypii* Mordv.: *Praon dorsale* (Hal.), Gossypium hirsutum, Turkmenia, Tajikistan, Uzbekistan. *Trioxys asiaticus* Tel., Gossypium hirsutum, Uzbekistan.
- Acyrtosiphon pisum* (Harris): *Aphidius ervi* Hal., Trifolium sp., Eur. part of USSR, Medicago sativa, Uzbekistan.
- Acyrtosiphon* sp.: *Aphidius ivanovae* Tel., Turkmenia.
- Dactynotus carthami* HRL.: *Praon dorsale* (Hal.), Carthamus lanatus, Crimea.
- Dactynotus cichorii* (Koch): *Aphidius funebris* Mack., Crepis paludosa, Eur. part of USSR.
- Dactynotus jaceae* (L.): *Aphidius funebris* Mack., Centaurea jacea, Georgia, Eur. part of USSR.
- Dactynotus obscurus* (Koch): *Praon dorsale* (Hal.), Hieracium auricula, Eur. part of USSR.
- Dactynotus ochropus* HRL.: *Praon volucre* (Hal.), Crimea.
- Dactynotus sonchi* (L.): *Praon dorsale* (Hal.), Eur. part of USSR.
- Dactynotus tanacetii* (L.): *Praon* sp., Tanacetum vulgare, Eur. part of USSR.
- Dactynotus* sp.: *Trioxys centaureae* (Hal.), Solidago gigantea, Eur. part of USSR.
- Macrosiphum aktashicum* Nevs.: *Aphidius* sp., Tajikistan.
- Macrosiphum rosae* (L.): *Aphidius rosae* (Hal.), Rosa sp., Latvia, Rosa sp., Georgia, Rosa sp., Rosa rugosa, Eur. part of USSR, Rosa sp., Crimea, *Praon volucre* (Hal.), Rosa sp., Crimea, Eur. part of USSR.
- Macrosiphoniella absinthii* (L.): *Aphidius absinthii* (Marsh.), Artemisia absinthium, Eur. part of USSR.
- Macrosiphoniella millefolii* (Deg.): *Aphidius absinthii* Marsh., Achillea millefolium, Eur. part of USSR. *Praon absinthii* (Bign.), Achillea millefolium, Eur. part of USSR.
- Macrosiphoniella* spp.: *Aphidius absinthii* Marsh., Georgia, Artemisia draconi, Tajikistan, Artemisia sp., Tajikistan, Azerbaidjan, Anthemis tinctoria, Crimea. *Ephedrus campestris* Starý, Artemisia sp., Azerbaidjan. *Praon volucre* (Hal.), Achillea sp., Eur. part of USSR.
- Megoura viciae* Bckt.: *Aphidius megourae* n. sp.; Vicia sp., Eur. part of USSR.
- Sitobium avenae* (F.): *Aphidius avenae* Hal., Hordeum sp., Crimea.
- Sitobium fragariae* (Walk.): *Praon volucre* (Hal.), Melica sp., Crimea.

Fam.: Thelaxidae

Subfam.: Thelaxinae

- Glyphina betulae* Bckt.: *Aphidius sicarius* Mack., Betula sp., West Siberia.
- Thelaxes dryophila* (Schrk.): *Lysiphlebus thelaxis* Starý, Quercus sp., Eur. part of USSR.

Fam.: Eriosomatidae

Subfam.: Pemphiginae

- Pemphigus lichtensteini* Tullgr.: *Lysiphlebus fabarum* (Marsh.), Populus pyramidalis, Georgia.
- Pemphigus* sp.: *Monoctonia pistaciaecola* Starý, Populus sp., Tajikistan.
- Forda hirsuta mordwilkoii* Börn.: *Monoctonia pistaciaecola* Starý, Pistacia sp., Crimea.
- Forda* sp.: *Monoctonia pistaciaecola* Starý, Pistacia sp., Crimea.

Aphidoidea varia

Ephedrus persicae Frog., Pirus communis, Uzbekistan, Prunus domestica, Eur. part of USSR. *Ephedrus plagiator* (Nees), Prunus domestica, Eur. part of USSR. *Praon volucre* (Hal.), Pirus communis, Uzbekistan, Prunus persica, Crimea. Prunus avium, Crimea. *Aphidius pterocommae* Ashm., Populus sp., Kazakhstan. *Lysiphlebus ambiguus* (Hal.), Pirus communis, Georgia; Zygophyllum fabago, Georgia. *Lysiphlebus fabarum* (Marsh.), Chrysanthemum sp., Georgia, Anagallis coerulea, Crimea, Carduus sp., Georgia, *Lysiphlebus salicaphis* Fitch., Populus sp., Salix sp., Uzbekistan, Populus sp., Kazakhstan. *Trioxys angelicae* (Hal.), Rubus sp., Latvia. *Trioxys complanatus* Quilis, Medicago sp., Uzbekistan. *Trioxys* gr. "rietschelt Mack.", Spiraea sp., Far East.

***Pauesia chlorata* (Telenga)**

Aphidius chloratus Telenga 1953, Trudy Inst. Zool. Parazitol. AH Uzb. SSR 1: 171—2 (♂, Uzbekistan, host). — 1958, Telenga, Uzbek. Biol. Zhurn., Tashkent 2: 52 (keyed). — 1959, Luzhetzki, Tez. Dokl. 4-ogo sj. Vses. Ent. Obstsh., M. L., p. 82 (Uzbekistan) (*Protophidius*). — 1960, Luzhetzki, Par. ilej Uzbekistana, p. 120—1 (♂, Uzbekistan, host). — 1960, Starý, Acta Faun. Ent. Mus. Nat. Pragae 6: 35 (*Paraphidius*). — 1960, Starý, Acta Ent. Mus. Nat. Pragae 34: 23 (*Pauesia*). — 1961, Narzykulov and Ataeva, Trudy Inst. Zool. Parazitol. AN Taj. SSR 20: 190 (Tajikistan, host).

This species runs to *P. pinicollis* (Starý) differing from the latter by the number of antennal segments, sculpture and shape of tergite 1 and coloration.

F e m a l e. — Head transverse, smooth, shiny, wider than thorax at tegulae, strongly narrowed behind eyes. Occiput margined. Temple $\frac{1}{3}$ narrower than transverse eye-diameter, Gena as wide as $\frac{1}{3}$ of longitudinal eye-diameter. Clypeus transverse, smooth, shiny, nearly flat, with about 12 hairs, separated by shallow arcuate furrow from face, with deep tentorial pit on each side. Tentorio-ocular 1. a little longer than half of inter-tentorial 1. Head-width equal to twice of transfacial 1. Eyes large, hemispherical, prominent laterally. Antennae 18-segmented, filiform, F₁ equal to F₂, 2.5 times as long as wide. Socket-ocular 1. equal to socket diameter.

Thorax smooth, shiny. Mesoscutum covering pronotum when viewed from side. Notaulices deep, crenulate at the ascendent part, effaced on the disc. Propodeum (fig. 63): Central carina and its rami strongly prominent, forming large central areola of somewhat variable shape and separating 1 large upper and 1 lower areolae on each side; discs of areolae almost smooth, in the neighbourhood of carinae feebly rugose. Wing: Pterostigma triangular, strongly sclerotized, about 2.5 times as long as wide. Metacarp somewhat shorter than pterostigma. Radial abscissa 1 equal to width of pterostigma.

Abdomen lanceolate. Tergite 1 (fig. 52) somewhat more than twice as long as wide at spiracles, comparatively slender, with slight lateral impressions behind spir. tubercles and slightly dilating towards apex, less than half wider at apex than at spiracles; surface shiny, feebly rugose, sparsely haired. Spiracular tubercles slightly prominent, situated somewhat before half of the tergite. Genitalia (fig. 46). Ovipositor sheaths comparatively wide and short, somewhat curved upwards at apex.

Coloration: Head yellow brownish; frons partially, vertex, occiput, upper half of temples black. Antennae black, scape on lower side yellowish brown. Thorax yellowish brown; scutellum, metanotum and propodeum brownish, Wing venation brown, tegulae yellowish brown. Legs yellowish brown. Abdomen brownish, darkened towards apex.

Length of body about 2.8 mm.

M a l e. — Antennae 21—22-segmented, almost equal to the body-length. Otherwise like the female except sexual differences.

General distribution: U. S. S. R. — Uzbekistan.

Material examined: U.S.S.R. — Uzbekistan: Tashkent reg., IX. 1958, *Pterochloroides persicae* on *Prunus vulgaris*, 2 ♀♀, Luzhetzki. St. Shredera, 4. 9. 1958, *Pterochloroides per-*

sicae on *Prunus amygdalus*, Luzhetzki. Tajikistan: Sary-Khasor, 20. VIII. 1959, 24. VIII. 1959, *Cinara juniperinum*, 1 ♀, 2 ♂♂, lgt. Ataeva.

Host: 1. Literary data — *Pterochloroides persicae* (Chol.): Telenga, 1953, Uzbekistan. Luzhetzki, 1960, Uzbekistan. *Cupressobium subterraneum* Mordv.: Narzykulov and Ataeva, 1961, Tajikistan. *Aphidae* sp.: Narzykulov and Ataeva, 1961, on *Biota orientalis*. *Aphis craccivora* Koch: Ataeva, 1962, on *Robinia pseudoacacia*. *Acyrtosiphon gossypii* Mordv.: Ataeva, 1962, on *Gossypium*.

2. Original and revised literary data: *Cinara juniperinum* Mordv.: Tajikistan. — *Pterochloroides persicae* (Chol.): Uzbekistan (Luzhetzki, 1960).

Note: This species is redescribed from female paratypes sent by Luzhetzki to the author.

***Aphidius bispinosa* Telenga**

Aphidius bispinosa Telenga 1958, Uzbek. Biol. Zhurnal, Tashkent 2: 52—3 (♀, Turkmenia).

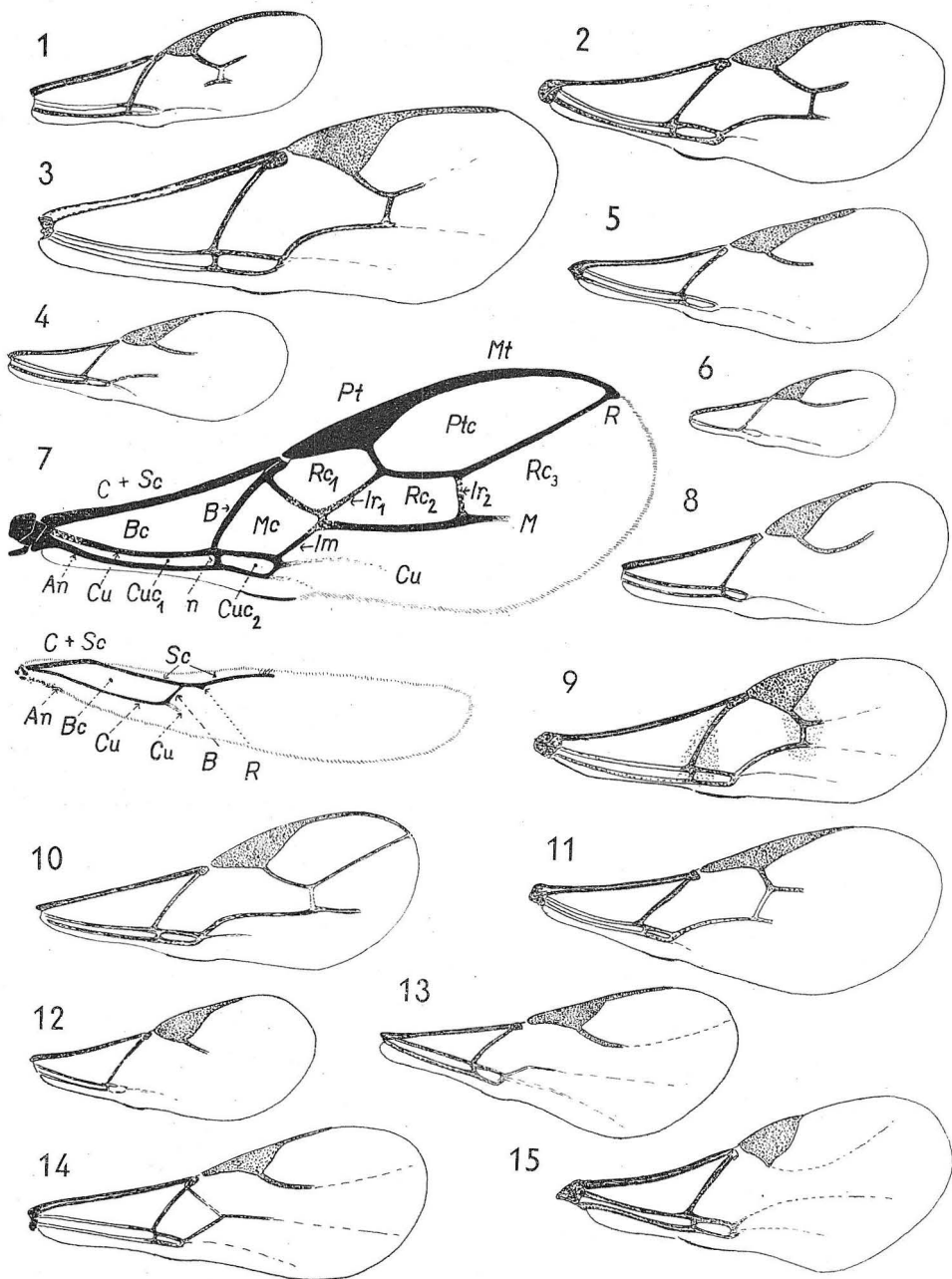
For the time being the true relation of this species to other members of the genus *Aphidius* is uncertain as only the holotype ♀ without other (host) data is known.

F e m a l e. — Head transverse, smooth, shiny, sparsely haired, somewhat wider than thorax at tegulae, strongly narrowed behind eyes. Occiput margined. Temple about $\frac{1}{6}$ narrower than transverse eye-diameter (11:13). Gena narrower than $\frac{1}{3}$ of longitudinal eye-diameter (5:17). Eyes widely oval, prominent, slightly convergent towards clypeus. Head-width more than twice of transfacial l. (37:14). Clypeus oval, prominent, smooth, shiny, with about 14 hairs, strongly arcuate at the fore margin; tentorio-ocular l. little shorter than half of intertentorial l. (3:7). Antennae 18-segmented, slender, filiform, reaching to half of abdomen, situated at the level, of eyes-centre. F_1 equal to F_2 , almost 3times as long as wide. Socket-ocular l. distinctly shorter than socket-diameter.

Thorax smooth, shiny. Mesoscutum prominent above prothorax covering it when viewed laterally. Notaulices wide, deep, crenulate at the ascendent part, reaching to about half of mesoscutum. Propodeum areolated, with small central pentagonal areola. Discs of areolae smooth, shiny, in the neighbourhood of carinae slightly rugose; upper areola with 9, lower with 9 hairs. Wing: Pterostigma 4.5times as long as wide (35:8). Metacarp somewhat longer than half of pterostigma (20:35). Radial abscissa 1 equal to about half of pterostigma length, abscissa $2\frac{1}{3}$ shorter than 1.

Abdomen lanceolate. Tergite 1 (fig. 55) more than twice as long as wide at spiracles (25:11), slightly dilated towards apex. With strong lateral impressions behind spiracular tubercles. Smooth, granulose at the basal and almost smooth at the apical portion, with prominent central longitudinal carina in the second third; sparsely haired. Spiracular tubercles strongly prominent laterally, situated somewhat before half of the tergite. Genitalia: Ovipositor sheaths shape usual as in other *Aphidius*-spp.

Coloration: Head-upper half, neighbourhood of eyes, upper portion of temples, black. Face and lower part of head yellow, only apexes of mandibles brown. Antennae brown, scape yellow, pedicel on lower side yellow, brownish at the dorsal portion. Prothorax, mesopleurae, greatest



Переднее крыло: 1. *Lysiphlebus fabarum* (Marshall), 2. *Aphidius funebris* Maskauer, 3. *Pauesia pini* (Haliday), 4. *Diaeretellus ephippium* (Haliday), 5. *Diaeretella rapae* (M'Intosh), 6. *Lipolexis gracilis* Förster, 7. *Ephedrus plagiator* (Nees), An — анальная ж., B — базальная ж., C — костальная ж., Cu — кубитальная ж., Im — интермедияльная ж., Ir — интеррадиальная ж., M — медиальная ж., Mt — метакарп, n — нервеллус или 1-ая интеркубинальная ж., Pt — птеростигма, R — ра-

portion of mesoscutum yellow orange; hind portion of mesoscutum, scutellum, metanotum, metapleurae and propodeum black. Wings slightly brownish, venation brownish. Tegulae yellow. Legs yellow, apices of tarsi darkened. Abdomen: Tergite 1 yellow, with brownish tinge in the apical half. Following tergites yellow at basal portion and brownish at the apical. Ovipositor sheaths brown.

Length of body about 3.2 mm.

Male. — Unknown.

General distribution: U. S. S. R. — Turkmenia.

Material examined: Holotype ♀, labeled: 466, *Aphidius bispinosa*, n. sp., in coll. of Prof. Telenga at Kiev.

Aphidius ivanovae Telenga

Aphidius ivanovae Telenga 1958, Uzbekist. Biol. Zhurn., Tashkent 2: 54 (♂, Turkmenia, host).

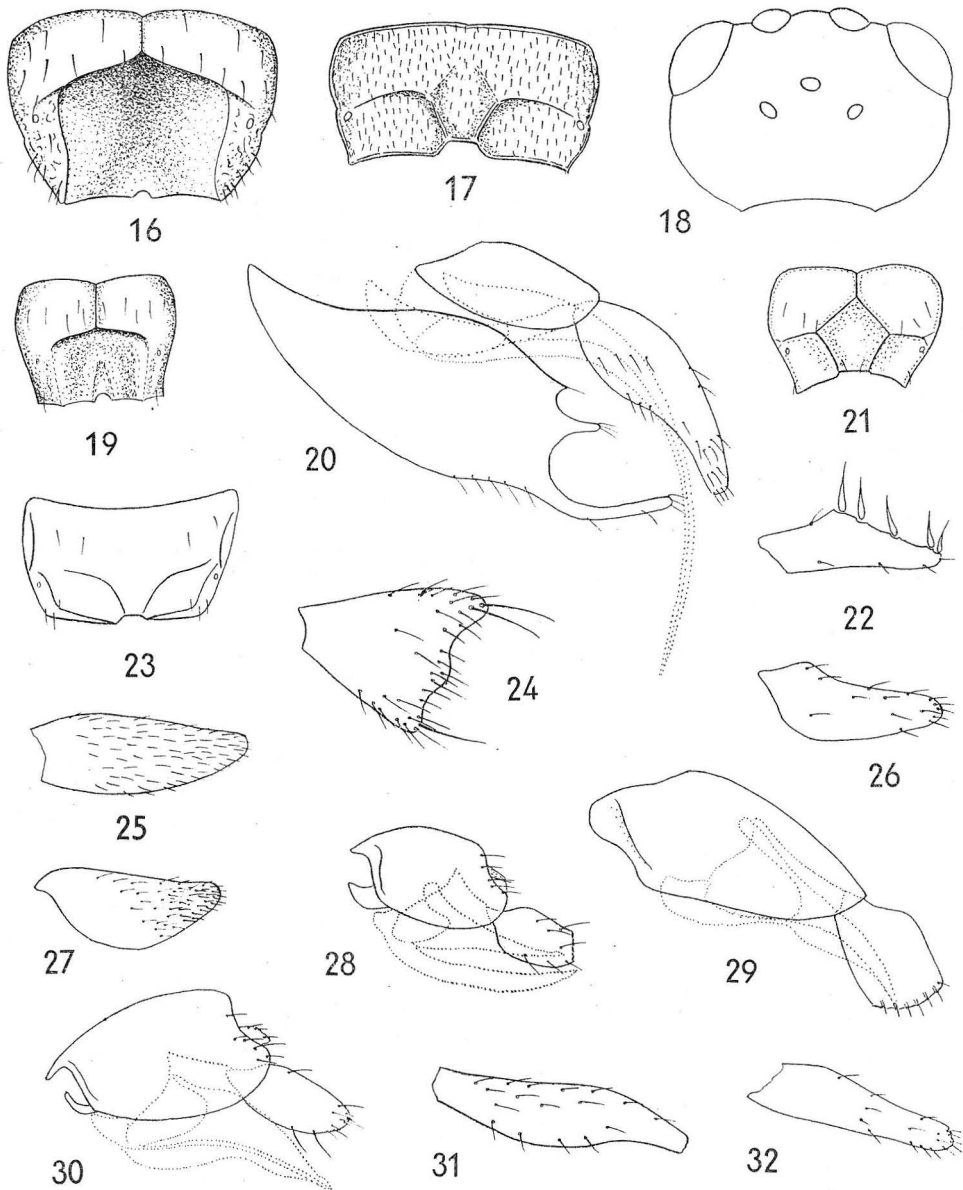
This species seems to have certain affinity to *Aphidius ervi* Hal. and its relatives.

Female. — Head transverse, smooth, shiny, sparsely haired, somewhat wider than thorax at tegulae, arcuately narrowed behind eyes. Occiput margined. Temple $\frac{1}{7}$ narrower than transverse eye-diameter (12:14). Gena shorter than $\frac{1}{3}$ of longitudinal eye-diameter (5:18). Eyes of middle size, widely oval, prominent, convergent towards clypeus. Head — width more than twice of transfacial l. (35:15). Clypeus transversely oval, slightly convex, smooth, shiny, with about 16 hairs, arcuate and margined frontally. Tentorio-ocular l. a little shorter than half of intertentorial l. (3:7). Antennae broken partially (20-segmented after orig. description), filiform. F₁ and F₂ of equal length, 3 times as long as wide. Socket-ocular l. distinctly shorter than socket-diameter.

Mesoscutum almost covering prothorax when viewed laterally. Notaulices deep, wide, crenulate at the ascendent part, being visible as far as half of mesoscutum nearly. Propodeum (fig. 48) areolated, with narrow central areola and 2 large lateral areolae on each side. Upper lateral areolae with 9 hairs on each side, almost smooth, lateral areolae with 7 hairs, coarsely rugose. Wing: Pterostigma almost 4 times as long as wide (30:8), metacarp $\frac{1}{3}$ shorter than pterostigma. Radial abscissa $1\frac{1}{3}$ longer than width of pterostigma, abscissa 2 equal to 1.

Abdomen lanceolate. Tergite 1 slender, 3.5 times as long as wide at spiracles, slightly dilating towards apex — nearly parallel-sided (width at spiracles 7, length 24, width at apex 10) coarsely rugose, sparsely haired, with prominent central longitudinal carina, with deep lateral impressions behind spir. tubercles. Spiracular tubercles poorly visible,

диальная ж., Sc — субкостальная ж., Bs — базальная я., Cus — кубитальная я., Mc — медиальная я., Ptc — птеростигмальная я., Rc — радиальная я., 8. *Trioxys centaureae* (Haliday), 9. *Xenostigmus bifasciatus* (Ashmead), 10. *Archaphidus greenideae* Starý et Schlinger, 11. *Monoctonus nervosus* (Haliday), 12. *Diaeretus leucopterus* (Haliday), 13. *Dyscritulus planiceps* (Marshall), 14. *Praon volucre* (Haliday), 15. *Paratipsis enervis* (Nees).



16. *Pauesia picta* (Haliday), промежуточный сегмент, 17. *Areopraon lepelleyi* (Waterston), промежуточный сегмент, 18. *Dyscritulus planiceps* (Marshall), голова, 19. *Diaeretus leucopterus* (Haliday), промежуточный сегмент, 20. *Acanthocaudus tissoti* (Smith), гениталии самки, 21. *Monoctonus crepidis* (Haliday), промежуточный сегмент, 22. *Trioxys hortorum* Starý, вершина отростка, 23. *Monoctonus augustivalvus* Starý, промежуточный сегмент, 24. *Toxares deltiger* (Haliday), створка яйцеграда, 25. *Ephedrus validus* (Haliday), створка яйцеграда, 26. *Praon volucre* (Haliday), створка яйцеграда, 27. *Areopraon lepelleyi* (Waterston), створка яйцеграда, 28. *Lysaphidus schimitscheki* Starý, гениталии самки, 29. *Diaeretus leucopterus* (Haliday),

situated before the half of the tergite. Ovipositor sheaths of usual *Aphidius*-shape.

Coloration: Upper part of frons, occiput, part of temples black; vertex, a part of temples, face, gena, clypeus, mouthparts (except apexes of mandibles) yellow. Antennae brown black, scape, pedicel and base of F₁ yellowish. Thorax yellow orange, part of scutellum, metanotum, metapleurae and propodeum black. Legs yellow, apexes of tarsi darkened. Wings almost hyaline, venation brown. Tegulae yellow. Abdomen: Tergite 1 brownish, remaining tergites yellow, slightly brownish on sides and apex. Ovipositor sheaths brown.

Length of body about 3.5 mm.

Male. — After Telenga: Antennae 22-segmented, Coloration as in the female, with 3 black spots on mesoscutum.

General distribution: U. S. S R. — Turkmenia.

Material examined: 1 ♀, probably holotype, labeled: T-269, *Aphidius ivanovae*, n. sp. Deposited in coll. of Prof. Telenga at Kiev.

Host: *Acyrtosiphon* sp.

***Aphidius luzhetzki* Telenga**

Aphidius luzhetzki Telenga 1958, Uzbek. Biol. Zhurn., Tashkent 2: 54—5 (♀, Uzbekistan, host). — 1959, Luzhetzki, Tez. Dokl. 4-ogo sj. vses. ent. obsth., M. L., p. 82 (Uzbekistan). — 1960, Luzhetzki, Par. tlej Uzbekistana, p. 123—4 (♀, Uzbekistan, host).

I have not seen any specimen of this species. According to the original description it seems to be synonymous with *Aphidius pterocommae* Ashm. and the host-record (*Neothomasia populicola*) is being supposed to be doubtful. The description is translated from the Russian original description of Telenga.

Female. — "Body reddish, shiny; antennae, vertex, occiput, three longitudinal spots on mesoscutum brown. Ovipositor sheaths black. Prothorax, legs, 1—2 segments of antennae reddish-yellow.

Head transverse, strongly narrowed behind eyes, as wide as thorax. Face transverse, genae distinctly longer than bases of mandibles. Antennae somewhat shorter than the body, 20-segmented. Flagellar segments twice as long as wide, the last acute at apex, almost twice as long as the preceding.

Mesoscutum with distinct parapsides. Scutellum nearly wider than long, arcuate at apex, margined frontally. Praescutellar groove narrow. Propodeum smooth with comparatively transverse fold, hind declivous portion with two longitudinal carinae, forming prolongate pentagonal areola.

Abdomen almost twice as long as thorax, behind half impressed laterally. Tergite 1 smooth, without tubercles, 4 times as long as wide at apex, slightly narrowed in the centre, almost parallel-sided at the basal

гениталии самки, 30. *Lysiphlebus fabarum* (Marshall), гениталии самки, 31. *Monostonus angustivalvus* Starý, створка яйцеклада, 32. *Ephedrus persicae* Frog., створка яйцеклада.

half, behind centre gradually dilating towards apex; spiracles situated between 1st and 2nd third of the tergite. Segment 2 square, remaining segments transverse. Wings hyaline, stigma and venation reddish. Cubital vein separating discoidal cell throughout. Transverse cubital vein distinct. Radial vein as far as the centre distinct, hardly visible at the apex. Nervus paralellus represents a prolongation of the basal part of cubital vein. Length of body 2.5 mm.

Male. — Unknown.

Related to *Aphidius gregarius* Marsh., differing from the latter by the shape of head, distinct notaulices, longer and smooth tergite 1 and entirely light coloration of legs.

Distributed in the Tashkent region, s. Lunatsharskoe. Parasite of aphids on Populus.”

Luzhetzki (1960, p. 124) says: “Rare species. Reared from *Neothomasia populicola* Bak. on Populus nigra in Ordzhonikidze district, Tashkent region.”

***Aphidius transcaspicus* Telenga**

Aphidius transcaspicus Telenga 1958. Uzbek. Biol. Zhurnal, Tashkent 2: 55—6 (♀♂, Turkmenia, Uzbekistan, host). — 1959, Luzhetzki, Tez. Dokl. 4-ogo sj. vses. ent. obtsh., M. L., p. 82 (Uzbekistan). — 1960, Luzhetzki, Par. tlej Uzbekistana, p. 124—5 (♀♂, Uzbekistan, Turkmenia, host).

Aphidius transcaspicus Telenga 1958. Uzbek. Biol. Zhurnal, Tashkent 2: 55—6 (♀♂, Turkmenia, Uzbekistan, host). — 1959, Luzhetzki, Tez. Dokl. 4-ogo sj. vses. ent. obtsh., M. L., p. 82 (Uzbekistan). — 1960, Luzhetzki, Par. tlej Uzbekistana, p. 124—5 (♀♂, Uzbekistan, Turkmenia, host).

This species is accepted on the base of material from Tashkent, which were bred from *Hyalopterus pruni*. The other record — *Aphidae* on *Artemisia* sp. seems to be doubtful and belonging to another *Aphidius*-species, probably *A. abstinthii* Marshall.

Female. — Head transverse, shiny granulate, sparsely haired, distinctly wider than thorax, rounded. Occiput margined. Temple just a little narrower than transverse eye-diameter. Gena equal to $\frac{1}{4}$ of longitudinal eye-diameter. Eyes elongate oval, comparatively small, strongly convergent towards clypeus. Head-width more than twice of transfacial 1. (Clypeus oval, slightly convex, with about 8 hairs, arcuate and marginated frontally. Tentorio-ocular 1. equal to half of intertentorial 1. Antennae 15—16) (18-after orig. description), filiform, slightly thickened towards apex, reaching to half of abdomen, situated in the level of eyes-centre. F₁ and F₂ of equal length, 3 times as long as wide. Socket-ocular 1. distinctly shorter than socket-diameter.

Thorax smooth, shiny. Mesoscutum arcuately arising above prothorax, without covering it when viewed laterally. Notaulices deep, crenulate at the ascendent part, effaced on the disc. Propodeum areolated, with comparatively wide central pentagonal areola of variable shape. Discs of areolae entirely smooth, shiny; upper areola with 4, lower with 2 hairs on each side. Wing: Pterostigma almost 5 times as long as wide. Metacarp as long as about half of pterostigma. Radial abscissa 1 twice as long as width of pterostigma.

Abdomen lanceolate. Tergite 1 (fig. 53) 3.5 times as long as wide at spiracles, slender, almost parallel-sided, slightly rugose, almost smooth at the hind portion, slightly convex, with feeble lateral impressions behind spir. tubercles, with short central carina, sparsely haired. Spiracular tubercles situated at the end of the first third, very slightly prominent. Ovipositor sheaths of usual *Aphidius*-shape.

Coloration: Head brown black, face, lower part of genae, clypeus, mouthparts (except apexes of mandibles) yellow. Antennae brown yellowish, scape, pedicel and F₁ on lower side yellowish. Prothorax yellow, meso- and metapleurae, propodeum yellowish, mesoscutum, scutellum and metanotum brownish or yellowish. Wings hyaline, venation brownish. Legs yellowish, apexes of tarsi darkened. Tergite 1 and spot at the base of tergite 2 yellow, following tergites brown, tergite 5 and remaining yellow with brownish basal portion or light brownish. Ovipositor sheaths brown.

Length of body about 1.5 mm.

Male. — Antennae 18-segmented. Coloration as in the female, but darkened, especially on the thorax.

General distribution: U. S. S. R. — Uzbekistan, Turkmenia.

Material examined: Type — series: 1 ♀ M — 116 *Aphidius transcaspicus* Tel., g. Tashkent. 1 ♂ O — 103 *Aphidius transcaspicus* Tel. g. Tashkent. 1 ♀ M — 117 *Aphidius transcaspicus* Tel., g. Tashkent. 1 ♂ O — 103, *Aphidius transcaspicus* Tel., g. Tashkent.

Type-locality: Turkmenia, Uzbekistan-Nizhne Tshirtzkikhsky rayon.

Host: *Hyalopterus pruni* (Geoffr.): Turkmenia, Uzbekistan, on *Phragmites communis*, *Prunus persica*, *Prunus domestica*, *Aphidae* sp. on *Artemisia* (the latter record is doubtful — probably another parasite species).

***Aphidius uzbekistanicus* Luzhetzki**

Aphidius uzbekistanicus Luzhetzki 1960, Par. tlej Uzbekistana, p. 122—3 (♀♂, Uzbekistan, host). — 1960, Luzhetzki, Tez. dokl. 4-ogo sj. vses. ent. obtsh., M. L., p. 82 (Uzbekistan).

I have not seen any female of this species and I have not found any type in the collection on the Institute of Zoology and Parasitology of the Uzbekistan Academy of Science at Tashkent. Two paratype-males were sent to the author by the late A. H. Luzhetzki and they are deposited in the author's collection. The description quoted below is translated from Russian (Luzhetzki, 1960):

“Female: Head dark brown to black; face reddish or dark yellow, mouthparts light yellow. Head — width 0.57—0.60; length, 0.30—0.36; distance from clypeus to antennal sockets 0.15—0.21; distance between eyes in above 0.33—0.36, in the centre 0.25—0.28; Antennae 19-segmented, somewhat shorter than the body, basal segments, similarly as flagellar segments, dark brown to black, the latter about twice as long as wide; apical segment only somewhat longer than the preceding.

Thorax dark brown to black; prothorax dark yellow, sometimes light brown; legs dark yellow, coxae 2 and 3, tibiae, femora and tarsi of 3rd pair darkened. Parapsidal furrows poorly visible at the fore angles of mesoscutum; praescutellar groove deep, scutellum unmarginated laterally.

Propodeum with longitudinal carina in the upper horizontal part, hind declivous portion with pentagonal areola. Wings hyaline. Stigma brown, triangular, length 0.27—0.30, width 0.09—0.10; metacarp 0.30—0.32. Venation brown. Radial abscissa as far as transverse cubital vein 0.21—0.23, after it 0.12—0.13; transverse cubital vein almost colourless. Longitudinal cubital vein separates disco-cubital cell on its lower side throughout. Nervus recurrens distinct.

Abdomen smooth, brown, lanceolate, somewhat depressed towards apex, somewhat longer than head and thorax combined. Tergite 1 pro-longate, almost parallel-sided, length 0.38—0.48; width at base 0.16—0.22, at apex 0.20—0.25; before the centre of the segment with two spiracular tubercles that are distinct; behind them impressed laterally and then somewhat dilating to the apex.

Male similar to the female, but smaller, abdomen oval, rounded, less narrowed to the apex. Length of body 2.3—2.5 mm.

The species is related to *A. bispinosa* Tel.”

This species was reared for the first time by I. M. Khovanceva in Akhan Garan district, Tashkent region, 19. VI. 1956. 9 females (holotype and paratypes) and 5 males (allotype and paratypes). Reared from *Sipha maydis* Pass. on *Triticum vulgare*.

Types are deposited in the coll. of Inst. Zool. Parasitol. AN UzbSSR.

Lysiphlebus laticephalus* (Telenga)

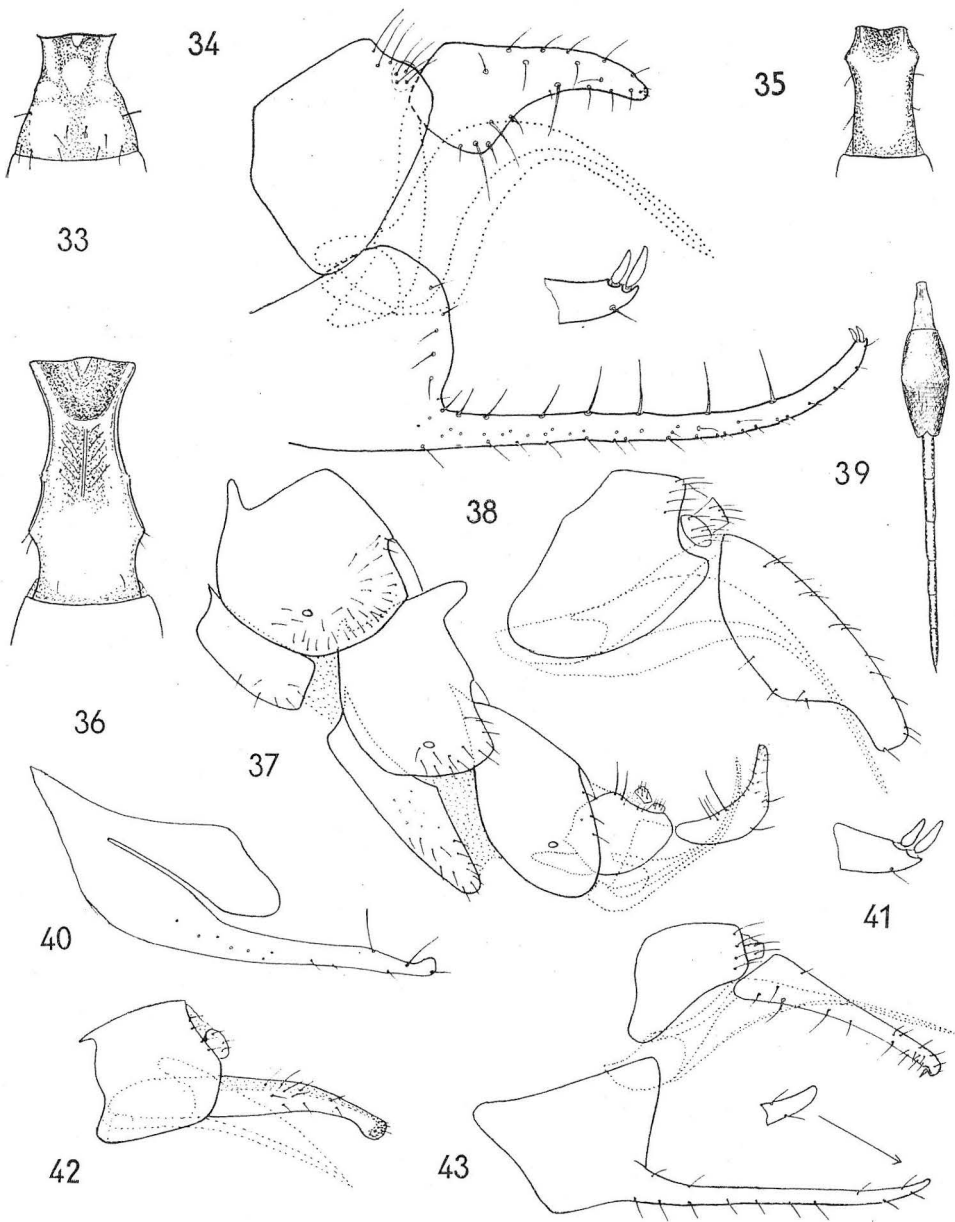
Aphidius (Diaeretus) laticephalus Telenga 1953, Trudy Inst. Zool. parasitol. AN UzbSSR Tashkent 1: 172—3 (♀, Uzbekistan, host). — 1960, Luzhetzki, Tez. dokl. 4-ogo sj. vses. ent. obsth., M. L., p. 82 (Uzbekistan). — 1960, Luzhetzki, Par. tlej Uzbekistana, p. 135—6 (♀♂, Uzbekistan, host). — 1961, Narzykulov and Ataeva, Trudy inst. zool. parazit. AN Taj SSR 20: 189—90 (Tajikistan, host). — 1962, Starý, Acta Faun. Ent. Mus. Nat. Pragae 8: 85 (Bulgaria, host).

This species is closely related (or identical) to the nearctic *L. salicaphis* (Fitch), which has also similar host-complex, being a parasite of *Chaitophorus* spp. and other aphids on *Salix* and *Populus*. There are certain differences between nearctic and palearctic specimens we have at hand and further material will show the specific identity of both mentioned species.

Female. — Head transverse, shiny, sparsely haired, wider than thorax at tegulae. Occiput margined. Temple about $\frac{1}{4}$ narrower than transverse eye-diameter. Gena as wide as $\frac{1}{4}$ of longitudinal eye-diameter. Clypeus oval, convex, with 6 long hairs. Tentorio-ocular 1. $\frac{1}{4}$ shorter than intertentorial 1. Eyes large, widely oval, convex, slightly convergent towards clypeus. Antennae 12—13-segmented, filiform, reaching to apex of tergite 1. F₁ equal to F₂, somewhat more than 2.5 times as long as wide. Socket-ocular 1. equal to socket-diameter.

Mesoscutum without covering prothorax when viewed laterally. Notaulices deep, crenulate at the ascendent part, effaced on the disc. Propodeum smooth or with poorly visible divergent carinae in the lower portion, with 2 hairs in the upper portion on each side. Wing hyaline.

*) Further research has shown that this species is identical with *L. salicaphis* (Fitch), which is holarectic in distribution.



33. *Lysiphlebus fabarum* (Marshall), тергит 1, 34. *Trioxys asiaticus* Telenga, гениталии самки, 35. *Trioxys hortorum* Starý, тергит 1, 36. *Trioxys centaureae* (Haliday), тергит 1, 37. *Metaphidis aterrimus* (Fahr.), брюшко самки, 38. *Monoctonus crepidis* (Haliday), гениталии самки, 39. *Protaphidius wissmannii* (Ratz.), брюшко (по Гоиданичу), 40. *Trioxys confucius* Маскавер, гениталии самки (по Стары и Шлинггер, 1965), 41. *Trioxys asiaticus* Telenga, вершина отростка. 42. *Lipolexis gracilis* Förster, гениталии самки, 43. *Trioxys macroceratus* Маскавер, гениталии самки.

Pterostigma triangular, about 3 times as long as wide. Metacarp somewhat longer than pterostigma. Radial v. as long as about 2.5 of pterostigma-width.

Abdomen lanceolate. Tergite 1 (fig. 59) about 2.5 times as long as wide at spiracles, strongly narrowed before spiracular tubercles, slightly dilating behind them and dilating somewhat to the apex, comparatively flat, smooth, shiny, with keeliform tubercle in the basal third, sparsely haired. Spiracular tubercles slightly prominent, situated somewhat before the half of the tergite. Genitalia figured (fig. 50).

Coloration: Head brown black; face more or less, clypeus and mouthparts yellow brownish. Antennae brown black, base of F₁ yellowish. Thorax brown black, prothorax sometimes yellowish. Venation brownish. Legs yellow brownish, tarsi and upper part of hind femora somewhat darkened. Abdomen: Tergite 1 and base of tergite 2 yellowish, the rest brown.

Length of body about 1.5—1.7 mm.

Male. — Antennae 15-segmented, almost as long as the body. Tergite 1 (fig. 49): the central keeliform tubercle seems to be more separated than in the female and all the tergite is less narrowed before spiracular tubercles.

General distribution: Probably the greater part of Palearctic region.

Material examined (see ch. III). West Siberia, Kazakhstan, Uzbekistan, Tajikistan. Habitat: Forest-type habitats, in desert and semi-desert zone it occurs in oases.

Hosts: 1. Literary data: *Aphidae* sp.: Telenga, 1953, on *Salix* sp., Uzbekistan. *Neothomasia populicola* Bak. — Luzhetzki, 1960, on *Populus nigra*, Uzbekistan. *Cupressobium juniperinum* — Ataeva, 1962, on *Thuja*, Tajikistan. *Metopolophium dirhodum* (Walk.) — Ataeva, 1962, Tajikistan. *Chromaphis juglandicola* — Ataeva, 1962, on *Juglans regia*, Tajikistan. *Chattothorus albus* — Narzykulov and Ataeva, 1961, on *Populus alba*, Tajikistan. *Ch. salicivorus* — Narzykulov and Ataeva, 1961, *Salix* sp., Tajikistan. *Ch. leucomelas* — Narzykulov and Ataeva, 1961, on *Populus pyramidalis*, Tajikistan.

2. Original and revised literary data: *Chattothorus niger* — W Siberia *Chattothorus albus* Mordv. — Tajikistan (Narzykulov and Ataeva, 1961). *Ch. salicivorus* Walk. — Tajikistan (Narzykulov and Ataeva, 1961). *Ch. leucomelas* Koch — Tajikistan (Narzykulov and Ataeva, 1961). *Aphidae* sp. — *Populus* sp., Kazakhstan. — *Neothomasia populicola* Bak. — *Populus nigra*, Uzbekistan (Luzhetzki, 1960).

***Trioxys (Trioxys) asiaticus* Telenga**

Trioxys asiaticus Telenga 1953, Trudy Inst. Zool. Parazitol. AN Uzb SSR 1: 170—1 (♀, Uzbekistan). — 1956, Alimdzahov and Bronstejn, Bezpozv. zhivotnye sr. Azii, Tashkent (Uzbekistan). — 1960, Luzhetzki, Zet. Dokl. 4-ogo sj. vses. ent. obtsh., M. L., p. 82 (Uzbekistan). — 1960, Luzhetzki, Par. tlej Uzbekistana, p. 140—1 (♀♂, Uzbekistan, hosts).

Trioxys (Trioxys) vandenboschi Mackauer 1960, Senck. biol. Frankfurt M. 41: 359—61 (♂♀, Iran, host).

This species is separated easily from other members of *Trioxys* s. str. by the shape of female-genitalia. It is related to *Trioxys (Trioxys) pannonicus* Starý, differing from the latter in the number of antennal segments and host-complex.

Female. — Head transverse, smooth, shiny, sparsely haired, somewhat wider than thorax at tegulae. Occiput margined. Temple $\frac{1}{5}$ narrower than transverse eye-diameter. Gena as long as $\frac{1}{5}$ of longitudinal eye-diameter. Clypeus transverse, smooth, shiny, almost flat, with about

6 hairs. Tentorio-ocular 1. as long as $\frac{1}{6}$ of intertentorial 1. Eyes rather large, widely oval, strongly prominent forward and laterally. Antennae 12-segmented, slender filiform, reaching to half of abdomen. F₁ about 6 times as long as wide, F₂ just a little shorter. Socket-ocular 1. shorter than socket-diameter.

Thorax smooth, shiny. Mesoscutum raising above pronotum without covering it when viewed laterally. Notaulices deep, crenulate at the ascendent part, effaced on the disc. Propodeum (fig. 45) smooth, shiny, sparsely haired, with 2 short and feebly visible divergent carinae at the lower part. Wing: Pterostigma triangular. Metacarp nearly pointlike. Radial v. somewhat longer than half of pterostigma.

Abdomen lanceolate. Tergite 1 (fig. 51) slender, almost parallel-sided, about twice as long as wide at spiracles, smooth, shiny, slightly convex, sparsely haired. Spiracular tubercles not prominent, situated at the end of the first third of the tergite. Genitalia (fig. 34). Prongs of the last sternite very long, slender, upwards-curved at apex, with 7—9 long hairs and with 2 lanceolate bristles at apex.

Coloration: Head brownish yellow, antennae brown, scape, pedicel, F₁ and part of F₂ yellow brown. Thorax brownish yellow, sometimes part of mesoscutum and scutellum more or less brownish. Venation brownish. Legs yellowish, upper side of femora sometimes brownish. Tergite 1 and 2 brownish yellow, 3, 4 and 5 brown, the rest of abdomen brownish yellow. Ovipositor sheaths and prongs of the last sternite brownish yellow. Coloration in general very variable.

Length of body 2.1—2.6 mm.

Male. — Antennae 14-segmented. More darkened than in the female. General distribution: Central Asia, Iran, Far East.

Material examined: See ch. III: Uzbekistan, Far East.

Habitat: Desert and semi-desert habitats

Hosts: 1. Literary data: *Acyrtosiphon gossypii gossypii* Mordv. — Luzhetzki, 1960, on *Gossypium hirsutum*, Uzbekistan. Ataeva, 1962, on *Gossypium hirsutum*, Tajikistan. *Aphis craccivora* Koch — Luzhetzki, 1960, on *Gossypium hirsutum*, Sophora sp., *Robinia pseudoacacia*, Uzbekistan. Ataeva, 1962, on *Medicago sativa*, Tajikistan.

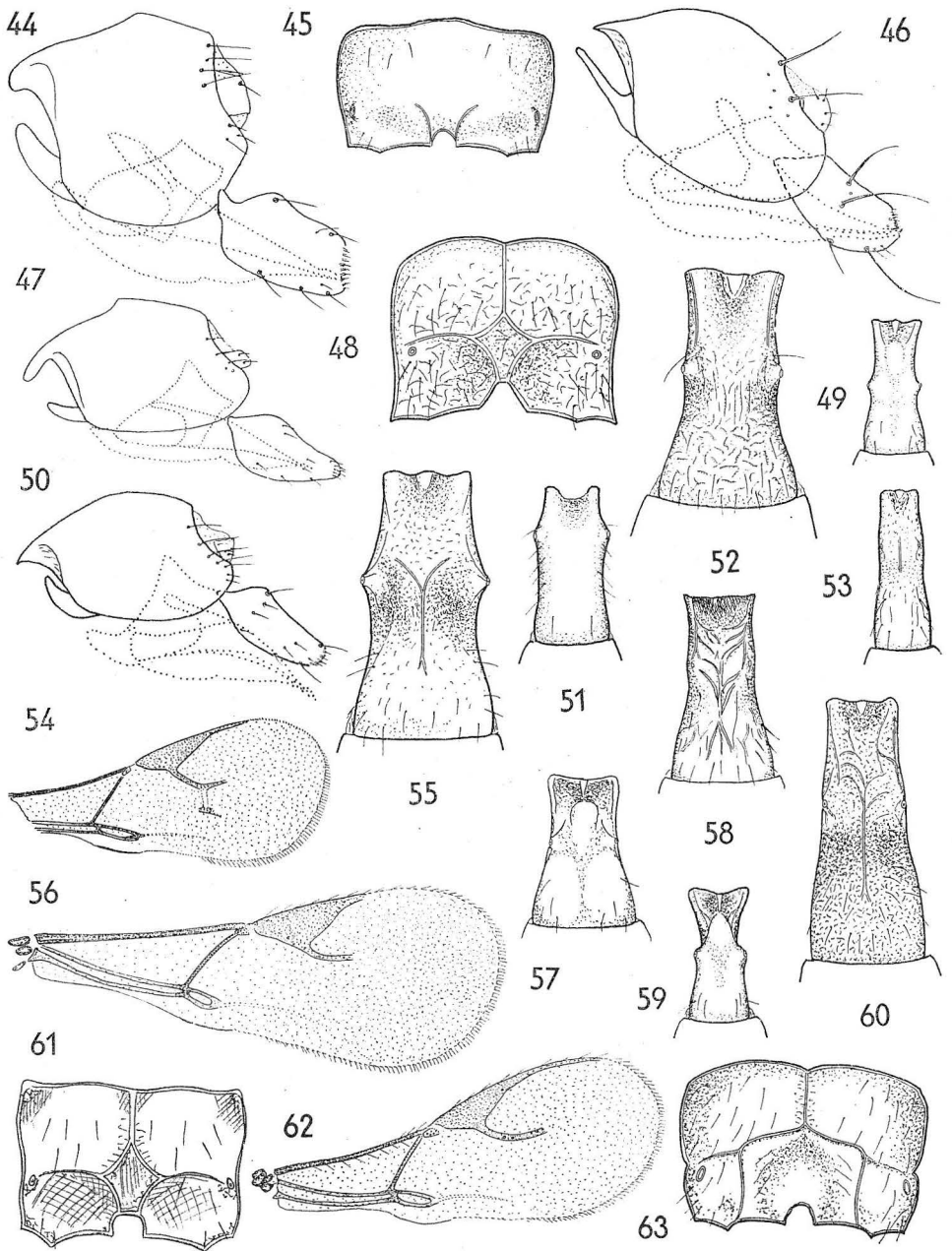
2. Original and revised literary data: *Acyrtosiphon gossypii gossypii* Mordv. — Uzbekistan (Luzhetzki, 1960).

V. DESCRIPTIONS OF NEW SPECIES

Lysiphlebus desertorum, n. sp.

By the short metacarp, which is distinctly shorter than pterostigma, this species is related to *L. fritzmuelleri* Mackauer. The latter is distributed from Europe to Siberia, being a specialized parasite of *Aphis cracciae*. The new species is probably a monophagous parasite of Aphids on *Achillea* sp. in desert and semi-desert areas of Central Asia. It differs from *L. fritzmuelleri* by the number of antennal segments, characters on the head, tergite 1, coloration and host.

Female. — Head transverse, much wider than thorax at tegulae, strongly narrowed behind eyes, sparsely haired. Occiput margined. Temple equal to half of transverse eye-diameter. Gena as long as $\frac{1}{5}$ of longitudinal eye-diameter. Eyes large, hemispherical, sparsely haired,



44. *Aphidius megourae*, n. sp., гениталии самки, 45. *Trioxys asiaticus* Telenga, промежуточный сегмент, 46. *Pauesia chlorata* (Telenga), гениталии самки, 47. *Lysiphlebus desertorum*, n. sp., гениталии самки, 48. *Aphidius ivanovae* Telenga, промежуточный сегмент, 49. *Lysiphlebus laticephalus* (Tel.), тергит 1, самец, 50. *Lysiphlebus laticephalus* (Telenga), гениталии самки, 51. *Trioxys asiaticus* Telenga, тергит 1, 52. *Pauesia chlorata* (Telenga), тергит 1, 53. *Aphidius transcaspicus* Telenga, тергит 1,

slightly convergent to the clypeus. Interocular line less than $\frac{1}{3}$ longer than transfacial 1., equal to facial 1. Clypeus transverse, margined frontally, with 4 long hairs. Tentorio-ocular 1. $\frac{1}{3}$ shorter than intertentorial 1. Antennae 12—13-segmented, filiform, reaching half of tergite 1. F₁ equal to F₂, 3 times as long as wide. Socket-ocular 1. distinctly shorter than socket-diameter.

Mesoscutum falling vertically to pronotum, sparsely haired. Notaulices feebly visible at the ascendent part, rugose. Propodeum smooth, shiny, sometimes in the neighbourhood of insertion of tergite 1 feebly rugose; with 3—4 hairs in the upper part and 1—2 in the lower part on each side. Wing (54): Pterostigma triangular, 3.5 times as long as wide. Metacarp distinctly shorter than pterostigma, usually at its half. Radial abscissa 1 equal to half of pterostigma — length, abscissa 2 distinctly shorter than 1. Interradial v. and rest of median v. distinct, partially colourless. Wing margin with hairs longer than these on the surface. Legs normal, hind legs with clinging hairs.

Abdomen lanceolate. Tergite 1 (fig. 57), 1.5 times as long as wide at spiracles, smooth, shiny, with longitudinal central impression, sparsely haired, with central tubercle near the base. Spiracular tubercles prominent laterally; distance between spiracles and apex equal to width at spiracles. Following tergites sparsely haired. Genitalia (fig. 47).

Coloration: Head brown black, face and clypeus brownish. Mandibles (except apexes) and palpi yellow. Antennae brown black, base of F₁ lighter. Thorax dark brown, propleurae brownish, propodeum in the lower portion more or less yellowish. Wings almost hyaline, venation brown, tegulae yellow. Legs brownish yellow, coxae, femora and apexes of tibiae more or less darkened. Tergite 1, 2 and part of 3 and sometimes lateral portions of 4 yellow, the rest of abdomen dark brown.

Length of body 1.1—1.7 mm.

Male. — Unknown.

General distribution: U. S. S. R. — Uzbekistan.

Material examined: U.S.S.R. — Uzbekistan: Yangi-Yulski district, Tashkent reg., VI. 1962, on *Achillea* sp., waste place near a cotton field, ♀ holotype, 87 ♀♀ paratypes], lgt. P. Starý.

Type: Holotype ♀ with the above quoted data. Deposited in the author's collection.

Habitat: Semi-desert and desert areas. Host-specificity: Probably monophagous.

Note: This species seems to be thelytokous.

***Aphidius megourae*, n. sp.**

The new species is similar to *Aphidius phalangomyzi* Starý, differing from the latter in the number of antennal segments, width of temples, length of notaulices, sculpture of tergite 1 and host.

54. *Lysiphlebus desertorum*, n. sp., переднее крыло, самка, 55. *Aphidius bispinosa* Telenga, тергит 1, 56. *Trioxys asiaticus* Telenga, переднее крыло, 57. *Lysiphlebus desertorum*, n. sp., тергит 1, 58. *Aphidius megourae*, n. sp., тергит 1, 59. *Lysiphlebus laticephalus* (Telenga), тергит 1, самка, 60. *Aphidius ivanovae* Telenga, тергит 1, самка, 61. *Aphidius megourae*, n. sp., промежуточный сегмент, 62. *Lysiphlebus laticephalus* (Tel.), переднее крыло, самка, 63. *Pauesia chlorata* (Telenga), промежуточный сегмент. (Все рисунки, с исключениями, по самкам.)

Female. — Head transverse, smooth, shiny, sparsely haired, rounded, wider than thorax at tegulae. Occiput margined. Temple nearly equal to transverse eye-diameter. Gena as wide as $\frac{1}{4}$ of longitudinal eye-diameter. Eyes of middle size, oval, prominent, sparsely haired, slightly convergent to the clypeus. Interocular 1. $\frac{1}{3}$ longer than transfacial 1., equal to facial 1. Antennae 19—20-segmented, filiform, remarkably long-nearly equal to body length. F₁ equal to F₂, 4 times as long as wide. Socket-ocular 1. distinctly shorter than socket-diameter.

Mesoscutum arcuately declivous to pronotum, smooth, shiny, sparsely haired. Notaulices wide, deep, rugose-granulate at the ascendent part and distinct as shallow rugosities as far as the half of mesoscutum. Propodeum areolated (fig. 61), upper areola with 5—7, lower with 2—3 hairs on each side; discs of areolae smooth, shiny, slightly rugose along carinae. Wing: Pterostigma 4.5—5 times as long as wide, metacarp $\frac{1}{3}$ shorter than pterostigma. Radial abscissa 1 shorter than 2, somewhat longer than $\frac{1}{3}$ of pterostigma.

Abdomen lanceolate. Tergite 1 (fig. 58) 2.5—3 times as long as wide at spiracles, with slight lateral impressions behind spir. tubercles, with central prominent carina at second third, with prominent rugosities, with sparse long hairs. Following tergites sparsely haired. Genitalia (fig. 44).

Coloration variable. Head black, face partly, lower portion of genae, clypeus, mouthparts (except apexes of mandibles) yellow. Antennae black, scape, pedicel and base of F₁ yellowish. Thorax black; prothorax and mesopleurae yellow orange, the latter often with dark spots. Wings almost hyaline, venation brownish. Legs yellow to brownish yellow, apexes of tarsi darkened. Tergite 1 yellow brown to black, following tergites brown black, suture between tergite 2 and 3 yellow brown.

Length of body about 2.1—2.4 mm.

Male. — Antennae 20—21-segmented. Coloration darker than in female. Head black, lower portion of clypeus and mouthparts brownish. Antennae black, base of F₁ lighter. Thorax black, prothorax and part of mesopleurae brownish. Legs yellowish brown, with various distribution of darker coloration, hind coxae and tarsi of all legs darkened. Abdomen black to black brown, tergite 1 black or with brownish yellow traces, suture between tergite 2 and 3 brown yellow. Otherwise like the female.

General distribution: U. S. S. R. (env. of Moscow), Czechoslovakia.

Material examined: U.S.S.R. — Abramcevo, about 60 km NO Moscow, VII. 1962, *Megoura viciae* on *Vicia* sp., meadow, ♀ holotype, ♂ allotype, numerous paratypes ♀♀ ♂♂ from laboratory rearing), lgt. P. Starý.

Czechoslovakia — Horní Vltavice, Šumava, 22. VII. 1959, *Megoura viciae* on *Lathyrus pratensis*, submountain meadow, 2 ♀♀ paratypes, lgt. P. Starý.

Type: Holotype ♀ and allotype ♂ with the above quoted data, deposited in the author's collection.

Habitat: Wet meadows, clearings in woods and in pathways.

Host: *Megoura viciae* Bckt. U.S.S.R. — env. of Moscow, on *Vicia* sp., Czechoslovakia.

Host — specificity: Strictly monophagous (e.g. laboratory tests using *Acyrtosiphon pisum* as unnatural host were unsuccessful).

Notes: The species has been extremely rare in Czechoslovakia. We have collected aphids and their parasites for more than 6 years and in one case only *Megoura viciae* was found to be poorly parasitized by *Aphidius megourae*, n. sp. For this reason *Aphidius megourae*, n. sp. population from the environment of Moscow was introduced in to Czechoslovakia for the purpose of biological control.

VI. ZOOGEOGRAPHY

Fauna of the *Aphidiidae* has been mostly studied in the greater part of Europe, partly in the Middle East, and quite recently also in the Far East. In this way the composition of the fauna of aphid parasites of countries rather distant from each other has been obtained, but the territory of USSR, being unknown as to the aphid parasite fauna, caused a number of open problems in the distribution, connections, host-specificity, etc. in different species of aphidiid wasps. In this paper there is a number of at least basic data on the distribution and ecology of a number of aphidiids of various districts of USSR. On these grounds it will be also possible to classify a number of other aphidiid species that have similar ecological requirements as the mentioned species. As our studies have shown the greater part of the species known from USSR today, represent mostly widely distributed species, although some faunistic complexes are also now recognizable.

The fauna of the *Aphidiidae* of USSR may be classified in general according to the topography of the palearctic region: 1. Forest zone, 2. Steppe zone, 3. Desert zone, 4. Mountain zone. The different types of topography are not separated strictly from each other and a number of intermediate habitats also exist; this is also recognizable from the composition of the fauna.

1. Forest zone. Forest zone in the territory of USSR is rather heterogeneous as for the character of flora. The forest plant communities are of the main significance, being in connection with cultivated areas, meadows, marshes and shrubs. In the forest zone the 3 following types of flora may be recognized: a) Coniferous forests and corresponding marshes and meadows of taiga type, b) Coniferous — deciduous forests and corresponding types of marshes and meadows, c) deciduous forests outside the distribution area of coniferous forests.

In the cultivated areas there are a number of stands of forests between cultivated districts, parks and orchards. There are forest protective belts grown in the steppe zone. The mixture of fauna is a result of this.

The aphid parasites occurring in the forest zone represent a rather typical complex, the following main species of which may be mentioned: *Ephedrus persicae* Frog., *Ephedrus plagiator* (Nees), *Praon abjectum* (Hal.), *Praon bicolor* Mack., *Praon flavinode* (Hal.), *Praon volucre* (Hal.), *Protaphidius wissmannii* (Ratz.), *Pauesia infulata* (Hal.), *Pauesia unilachni* (Gah.), *Diaeretus leucopterus* (Hal.), *Aphidius hieraciorum* Starý, *Aphidius hortensis* Marsh., *Aphidius megourae* Starý, *Aphidius pterocommae* Ashm., *Aphidius ribis* Hal., *Aphidius rosae* Hal., *Aphidius setiger* Mack., *Lysiphlebus salicaphis* Fitch, *Lysiphlebus thelaxis* Starý, *Trioxys angelicae* (Hal.), *Trioxys cirsii* Curt., *Trioxys pallidus* (Hal.), *Monoctonus crepidis* (Hal.), *Monoctonus pseudoplatani* (Marsh.), *Monoctonia pistaciaecola* Starý.

The forest zone represents a perennial type of community, in which chronic foci of parasites occur.

2. Steppe zone. The relief of steppe zone is rather heterogeneous. For this reason there also occur habitats of forest, marshes, meadows,

etc., sometimes these parts represent big complexes. Besides, primarily steppe flora is destroyed by ploughing in the greater part of districts and changed into so-called cultivated steppe areas. From typical representatives of the steppe zone the following may be mentioned: *Ephedrus campestris* Starý, *Praon dorsale* (Hal.), *Praon exoletum* (Nees), *Aphidius absinthii* Marsh., *Aphidius ervi* Hal., *Aphidius Junebris* Mack., *Diaeretiella rapae* (M'Int.), *Lysiphlebus ambiguus* (Hal.), *Lysiphlebus fritzmuelleri* Mack., *Trioxys letifer* (Hal.), *Trioxys centaureae* (Hal.), *Trioxys complanatus* Quilis.

In the steppe zone there exist foci of parasites of quite a different type, in the natural steppe foci of chronic type, in cultivated area temporary foci namely, the chronic foci being concentrated in places of more or less natural character (waste places, long fallow lands, etc.).

3. Desert zone. The desert zone, i. e. its primary type is rather poorly known as to research on aphidiid wasps. Besides which, there are a number of various types of desert, which are strictly different as to the type of fauna. The following representative of the desert zone may be mentioned — *Lysiphlebus desertorum*, n. sp., and, may be, *Trioxys asiaticus* Tel. There are rather common oases and irrigated lands in the desert zone, mostly of cultivated type. Into orchards penetrate some species of the forest zone: *Ephedrus plagiator* (Nees), *Ephedrus persicae* Frog., *Praon volucre* (Hal.), in irrigated land areas there occur *Aphidius ervi* Hal., *Lysiphlebus ambiguus* Hal., *Lysiphlebus fabarum* (Marsh.), being typical of the steppe zone.

4. Mountain zone. We have obtained rather poor material from this zone. It seems that the vertical zonation does not have such importance as does the type of plant community on the distribution of the aphidiid wasps. For example, in the subalpine meadows of Gissar mountains *Aphidius absinthii* Marsh. was bred as a parasite of *Macrosiphoniella* sp. on *Artemisia* sp. This parasite is quite typical of the steppe zone, although the mentioned meadow was at about 3.000 m. above sea level. It is possible that in the frame of the classification of the Aphidiidae the mountain zone will be not treated as a separate zone.

The research on the distribution of the Aphidiidae is of basic importance also for research on parasite foci in nature. As the problem of research on aphid parasite foci in Central Europe was dealt with in a separate paper (Starý, 1964) only general principles are mentioned in the present paper.

Of main importance is the research on parasite foci in cultivated areas, where the parasites are effective in pest aphid control. According to our studies the annual crops include only temporary parasite foci. Chronic foci of parasites may be found in perennial plant communities and habitats of more or less primary type. In annual crop fields, entomofauna of which develops anew each year, the parasites penetrate from similar habitats in the neighbourhood where chronic foci exist. A typical example may be mentioned here: *Aphis fabae* Scop. on sugar beet. Sugar beet is attacked mostly by *Aphis fabae* Scop., to lesser degree by *Myzodes persicae* Sulz. *Aphis fabae* Scop. occurs in spring on primary host plants in forest type habitats, where it is parasitised (in C. Europe) by

three parasite species: *Ephedrus plagiator* (Nees), *Trioxys angelicae* (Hal.), *Praon abjectum* (Hal.). On secondary host plants, in field type habitats, it is parasitised by *Lysiphlebus fabarum* (Marsh.) and *Lipolexis gracilis* Först. Both mentioned parasite species occur in spring in habitats that include chronic foci, as parasites of a number of aphid species. But the sugar beet field represent a monoculture, on which aphids occur at first in foci, and only then do parasites spread here from the neighbourhood — from chronic foci. A similar case is that of *Myzodes persicae* Sulz. A special interest should be paid also to the research of entomofauna of forest protective belts, where the parasites are able to parasitize aphids (dioecious species), which have in many cases their primary host plants in the belts, from where they spread thence to the crops. On the other hand, in forest protective belts such plants may also occur the aphidofauna of which is of no importance economically but represents alternative hosts of parasites of pest aphid species. The foci of aphid parasites in irrigated desert lands represent another important problem. A number of parasites [*Lysiphlebus ambiguus* (Hal.), *Trioxys angelicae* (Hal.)] are able to spread along irrigating ditches in cultivated areas and attack aphids in orchards, cotton fields, etc. in newly formed oases.

VII. KEY TO THE GENERA AND SUBGENERA (♀♀)

ОПРЕДЕЛИТЕЛЬ РОДОВ И ПОДРОДОВ (♀♀)

* — роды и подроды установленные для СССР

- | | | |
|------|---|------------------------------|
| 1 | Бескрылые | Diaeretellus Starý |
| — | Крылья имеются | 2 |
| 2(1) | Медиальная жилка заметна во всем протяжении, разделяет 1. радиальную и медиальную ячейки | 3 |
| — | Медиальная жилка в передовой части или совсем отсутствует, 1. радиальная и медиальная ячейки слиты между собой; жилкование крыльев частично редуцированное за базальной жилкой | 6 |
| 3(2) | Интеррадиальные жилки отсутствуют (14) | 4 |
| — | Интеррадиальные жилки имеются (7) | 5 |
| 4(3) | Промежуточный сегмент гладкий. Створки яйцекада в редких волосках. Окукливание в особом коконе под зараженной тлей. Распространение: Пал., Неа. | Praon Haliday |
| — | Промежуточный сегмент с более или менее заметным полем. (17). Створки яйцекада в густых волосках (27). Окукливание внутри зараженной тли. Распространение: Европа | Areopraon Maskaueg |
| 5(4) | Створки яйцекада и яйцекад прямые или слегка кверху изогнутые. Усики 11-члениковые. Брюшко ланцетовидное. Окукливание внутри зараженной тли. Распространение: Пал., неа., эфиоп. | Ephedrus Haliday |
| a | Промежуточный сегмент гладкий, с ясными полями. Створки яйцекада сравнительно узкие и длинные, постепенно прямо суживающиеся к вершине; в редких волосках; на вершине округлые (32). Распространение Пал., неа., эфиоп. | sg. Ephedrus s. str. |
| — | Промежуточный сегмент грубо морщинистый, валики полей возвышенные и часто сравнительно незаметные. Створки яйцекада очень широкие, в проксимальной части прямо и сильно суживающиеся к вершине; слабо кверху изогнутые, в густых волосках, на вершине тупо заостренные (25). Распространение: Европа, Д. Восток | sg. Lysephedrus Starý |
| — | Створки яйцекада вниз изогнутые, сильно расширенные, треугольные и трехзубные на вершине (24). Яйцекад вниз изогнутый. Усики 18-члениковые. Брюшко округлое. Окукливание внутри зар. тли. Распространение: Европа | Toxares Haliday |

- 6(2) Радиальная и медиальная ячейки слиты, ясно ограничены 2. интеррадиальной жилкой на внешней стороне (2. интеррадиальная жилка иногда слабо заметная но ясная) 7
- Радиальная и медиальная ячейки слиты, на внешней стороне открытые 17
- 7(6) Птеростигмальная ячейка ясно замкнутая (10) 8
- Птеростигмальная ячейка не замкнутая (1, 2) 9
- 8(7) Глаза малые. Усики четковидные. Нотаулицес на основе заметные в виде слабых морщин. Промежуточный сегмент гладкий. Брюшко округлое. Тергит 1 поперечный. Распространение: Европа. **Aclitus** Foerster
- Глаза большие. Усики нитевидные. Нотаулицес отсутствуют. Промежуточный сегмент частично с полями. Брюшко ланцетовидное. Тергит 1 заметно длиннее ширины. Окукление внутри зараженной тли. Распространение: Д. Восток (паразиты тлей *Greenidea*) **Archaphidus** Starý et Schlinger
- 9(7) Соединенные радиальная и медиальная ячейки ясно ограниченные на нижней стороне соединенной интермедиальной и медиальной жилками (2) 10
- Соединенные радиальная и медиальная ячейки на нижней стороне открытые — остаток медиальной жилки заметный лишь под 2. интеррадиальной жилкой (1) 15
- 10(9) Сегменты брюшка начиная 4. паразительно трубчовидные и телескопические (39). Окукление внутри зараженной тли. Распространение: Европа, Д. Восток. (Паразиты тлей *Stomaphis*) **Protaphidius** Ashmead
- Сегменты брюшка нормальные, брюшко ланцетовидное или округлое 11
- 11(10) Створки яйцеклада слабо кверху изогнутые (44) 12
- Створки яйцеклада вниз изогнутые, плуговидные, или стройные, постепенно суживающиеся к вершине (38, 31). (Отм.: Жилкование крыльев иногда изменчивое.) Окукление внутри зараженной тли. Распространение: Пал., неа. **Monoctonus** Haliday
- а Промежуточный сегмент с ясными полями (21). Створки яйцеклада сильные, изогнутые, или стройные, постепенно суживающиеся к вершине 6
- Промежуточный сегмент с 2 расходящимися валиками (23) в нижней части. Створки яйцеклада стройные, постепенно суживающиеся к вершине. Распространение: Европа. sg. **Paramonoctonus** Starý
- б(а) Створки яйцеклада сильные, треугольные. Распространение: Пал., неа. sg. **Monoctonus** s. str.
- Створки яйцеклада стройные, постепенно суживающиеся к вершине. Распространение: Европа. sg. **Falciconus** Maskauer
- 12(11) Метакарпус короче ширины птеростигмы (9). Окукление внутри зараженной тли. Распространение: Неа. (Паразиты тлей сем. *Lachnidae*) **Xenostigmus** C. F. Smith
- Метакарпус длиннее ширины птеростигмы (3) 13
- 13(12) Валики на промежуточном сегменте образуют большое, широкое, пятиугольное поле (иногда слабо заметное) 14
- Валики на промежуточном сегменте образуют очень узкое, малое, срединное поле. Окукление внутри зараженной тли. Распространение: Почти космоп. **Aphidius** Nees
- 14(13) Тергит 7 с небольшим трубчовидным отростком в основании. (37). Окукление внутри зараженной тли. Распространение: Европа. (Паразиты тлей сем. *Lachnidae*) **Metaphidius** Starý et Sedlag
- Тергит 7 без отростка в основании. Окукление внутри зараженной тли. Распространение: Пал., неа., ориент. (Паразиты тлей сем. *Lachnidae*) **Paesia** M. P. Quilis
- 15(9) Тергит 1 с более или менее заметным бугорком в середине у основания, без срединного валика или морщины. Тенторно-окулярная линия почти или равна интертенторальной линии. Окукление внутри зараженной тли. Распространение: Почти космоп. **Lysiphlebus** Foerster
- Тергит 1 с более или менее заметным срединным валиком, более или менее морщинистый. Тенторно-окулярная линия равна интертенторальной линии или короче 16

- 16(15) Тенторио-окулярная линия равна интертенториальной линии. Передняя лопасть валвулы 2 нормальная. Окукление внутри зараженной тли. Распространение: Д. Восток . . . **Lysiphlebia** Starý et Schlinger
- Тенторио-окулярная линия заметно короче интертенториальной линии, обычно равна $\frac{1}{3}$. Передняя лопасть валвулы 2 большая (28). Окукление внутри зараженной тли. Распространение: Европа, неа., неотроп. . . **Lysaphidus** C. F. Smith
- 17(6) Радиальная жилка почти отсутствует, заметна как точка на нижней стороне птеростигмы. Птеростигма большая, треугольная, сильно склеротизированная (15). Ноги сильные. Окукление внутри зараженной тли. Распространение: Европа, Д. Восток. (Паразиты корневых тлей.) . . . **Paralipsis** Foerster
- Радиальная жилка хорошо заметная, никогда точковидная. Ноги нормальные. . . 18
- 18(17) Створки яйцеклада вниз изогнутые. Терминальный стернит иногда с 2—1 отростками (34). . . 19
- Створки яйцеклада прямые или слегка кверху изогнутые, терминальный стернит без отростков . . . 25
- 19(18) Терминальный стернит с 2—1 отростками (34). . . 20
- Терминальный сегмент без отростков . . . 22
- 20(19) Терминальный стернит с 1 кверху изогнутым отростком. Окукление внутри зараженной тли. Распространение: Д. Восток. . . **Bioxys** Starý et Schlinger
- Терминальный стернит с 2 вилкообразными отростками . . . 21
- 21(20) Отростки терминального стернита с вторичными отростками (20). Окукление внутри зараженной тли. Распространение: Неа. . . **Acanthocaudus** C. F. Smith
- Отростки терминального стернита простые. Окукление внутри зараженной тли. Распространение: Почти космоп. . . **Trioxys** Haliday
- а Тергит 1 с первичными (спиракулярными) и вторичными бугорками, последние иногда слабо заметные — почти слитые с первичными (36) . . . б
- Тергит 1 только с первичными бугорками (35) . . . в
- б(а) Отростки терминального стернита начинают на вершине стернита (34). Распространение: Пал., неа. . . **Binodoxys** Maskauer
- Отростки терминального стернита начинают вблизи основания стернита (40). Распространение: Д. Восток . . . sg. **Fissicaudus** Starý et Schlinger
- в(а) Тергит 1 почти параллельный, первичные бугорки очень слабо заметные. Отростки за серединой изогнутые, с несколькими на основе расширенными шипообразными волосками (22). Распространение: Европа . . . sg. **Betuloxys** Maskauer
- Отростки слегка изогнутые или почти прямые . . . г
- г(в) Первичные бугорки находятся в первой трети тергита. Отростки разной длины. Створки яйцеклада нормальные, волоски на вершине простые или на основе расширенные. (34). Распространение: Пал., неа., неотр., ориент. . . sg. **Trioxys** s. str.
- Первичные бугорки находятся вблизи половины тергита. Отростки заметно длинные, без волосков на вершине. Створки яйцеклада очень длинные, с щеткообразными волосками на внутренней стороне (43). Распространение: Европа . . . sg. **Pectoxys** Maskauer
- 22(19) Радиальная жилка длиннее $\frac{2}{3}$ возможной длины; птеростигмальная ячейка почти замкнутая (6). Створки яйцеклада слегка вниз изогнутые, на верхней стороне более склеротизированные (42). Окукление внутри зараженной тли. Распространение: Европа, Д. Восток. . . **Lipolexis** Foerster
- Радиальная жилка не длиннее $\frac{2}{3}$ возможной длины, птеростигмальная ячейка ясно открытая. Створки яйцеклада слегка вниз изогнутые, более или менее плугообразные или когтевидные, или стройные . . . 23
- 23(22) Тергит 1 поперечный. Створки яйцеклада треугольные, когтевидные. Окукление внутри зараженной тли. Распространение: Европа (Крым). (Паразиты тлей р. *Forda*). . . **Monoctonia** Starý
- Тергит 1 всегда длиннее ширины. Створки яйцеклада треугольные, плугообразные, или стройные, постепенно суживающиеся к вершине . . . 24

- 24(23) Медиальная + интермедиальная жилки лишь частично заметные. см. **Monoctonus** Haliday
 — Медиальная + интермедиальная жилки совсем отсутствуют. Распространение: Не. **Boreogalba** Maskauer
- 25(18) Нотаулицес отсутствуют. Промежуточный сегмент с более или менее ясным срединным полем (19). Окукливание внутри зараженной тли. Распространение: Европа, Д. Восток. (Паразиты тлей сем. *Lachnidae*). **Diaeretus** Förster
 — Нотаулицес по крайней мере в передовой части ясно заметные 26
- 26(25) Промежуточный сегмент с ясным малым срединным полем 27
 — Промежуточный сегмент гладкий или иногда с 2 расходящимися валиками в нижней части см. **Lysiphlebus** Förster
- 27(26) Голова почти кубическая (18). Нотаулицес глубокие и ясные во всем протяжении. Окукливание под зараженной тлей в коконе. Распространение: Европа. (Паразиты тлей р. *Drepanosiphon*). **Dyscritulus** Hirsch
 — Голова поперечная. Нотаулицес более или менее глубокие, но только в передовой части заметные 28
- 28(27) Интермедиальная жилка (соединенная с частью медиальной жилки) совсем отсутствует (5). Окукливание внутри зараженной тли. Распространение: Почти космоп. **Diaeretiella** Starý
 — Интермедиальная жилка (соединенная с частью медиальной жилки) ясная, слабее пигментированная чем радиальная жилка (4). Окукливание внутри зараженной тли. Иногда ♀ бескрылые. Распространение: Европа. (Паразиты тлей на *Sphagnum* и др.) **Diaeretellus** Starý

Роды не включенные в определитель:

Calaphidius Maskauer, **Harkeria** Cameron, **Tanytrichophorus** Maskauer.

VIII. RESEARCH PROGRAMME

Results of this paper have shown that it is necessary to continue research in the following directions:

1. Basic research on the aphid parasites fauna of USSR.
2. The research has to be based on bred material, the host plant and general classification of the habitat being dealt with also.
3. It is necessary to study the parasites of all the aphid species, although mainly the parasites of pest aphids, as the apparently unimportant aphid species often represent alternative hosts of effective parasites.
4. Gradual research on the host specificity of different, mainly effective parasite species.
5. Research on bionomics, ecology, effectiveness of economically important parasite species both in laboratory and field conditions.
6. Research on foci of parasites in different types of habitats.
7. Research on parasite complexes of different ecological groups of aphids.
8. Research on interrelations of different taxonomic groups of aphids and parasites.
9. On the above mentioned grounds to deal gradually with general problems — host specificity, etc.
10. The study of relations of USSR fauna to other countries.
11. Problems of augmentation of effective parasites (introduction of species, integrated control possibilities, etc.).

SUMMARY

The present paper is a review of the aphidiid parasites of the USSR. It is divided into several chapters that are summarized as follows:

I. Introduction. A brief criticism of papers dealing with the fauna of the Aphidiidae of today's USSR is given.

II. In a review of the aphidiid wasps of the USSR data on distribution, habitat, host-specificity, hosts and localities in USSR in every species are included.

III. Host and parasite catalogue includes only original data.

IV. Redescriptions of species described from the USSR: *Pauesia cholorata* (Telenga), *Aphidius bispinosa* Telenga, *Aphidius ivanovae* Telenga, *Aphidius luzhetzki* Telenga (original description only — translated from Russian), *Aphidius transcaspicus* Telenga, *Aphidius uzbekistanicus* Luzhetzki (translation of the original description only), *Lysiphlebus salicaphis* Fitch (= *laticephalus* Telenga), *Trioxys asiaticus* Telenga.

V. Descriptions of new species. *Lysiphlebus desertorum*, n. sp., a parasite of aphids on *Achillea* sp. from Uzbekistan, and *Aphidius megourae*, n. sp., a parasite of *Megoura viciae* Bckt. on *Vicia* sp. from the European part of USSR are described.

VI. Zoogeography. The results of the present paper give at least basic knowledge of the connection between the aphid parasites fauna of Europe, Middle East and the Far East, which have so far been most intensively studied. It was ascertained that the greater part of collected material represents more or less widely distributed species although several faunistic complexes seem to be recognizable for the future. For this reason only the frame-division according to the zones represented in the Palaearctic region has been used. As all the biotopes are not strictly separated from each other, quite a number of a typical species often occur in any particular biotope. Because of this fact the ecological characteristics of different parasite species for biological control purposes are believed to have basic importance. The division of parasites used is as follows: 1. Forest zone. 2. Steppe zone. 3. Desert zone. 4. Mountain zone. The forest and steppe zones have been mainly dealt with.

VII. Key to the genera and subgenera is given for the purpose of Soviet specialists to obtain a general idea on the contemporary state of knowledge of the Aphidiidae as no similar key exists in their literature.

VIII. Research programme. On the ground of the appreciation of the contemporary knowledge of the Aphidiidae of the USSR following aims have been erected: 1. General study of the aphidiid fauna of the USSR, which must not be separated but connected with at least a general knowledge of the world fauna. 2. The study must stem from reared material of parasites, whilst, beside host aphid, the aphid host plant and the kind of habitat is recommended to be also dealt with. 3. The parasites of all aphid species, both pests and economically unimportant species, must be studied as the apparently unimportant aphid species often represent subsidiary hosts of economically important aphidiid wasps. 4. The host-specificity of different parasites must be gradually studied. 5. Studies on the effectiveness of different parasite species. 6. The foci of parasites in

various kinds of habitats, namely in cultivated areas. 7. Parasite complexes of different ecological aphid groups (dendrophilous, xerophilous, etc.). 8. Host X parasite relationship. 9. On the ground of 1—8 to work on general results, e. g. factors affecting the food specificity, etc. 10. The relation of the aphidiid fauna of USSR to other countries. 11. Appreciation of native parasites effectiveness. Possibility of introducing more effective species.

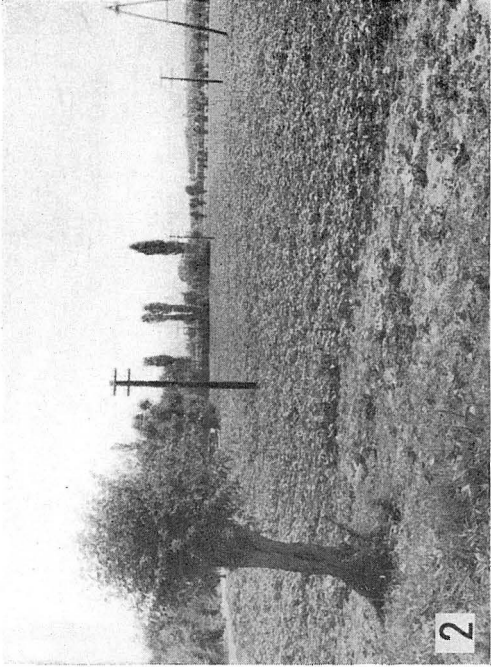
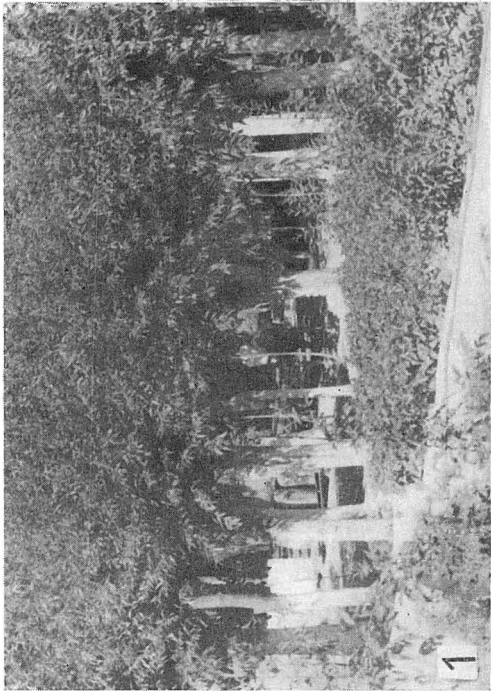
IX. References. There is a complete list of all papers dealing with the aphidiid parasites of USSR, besides a number of main papers that are necessary for the general knowledge of the group.

IX. ЛИТЕРАТУРА

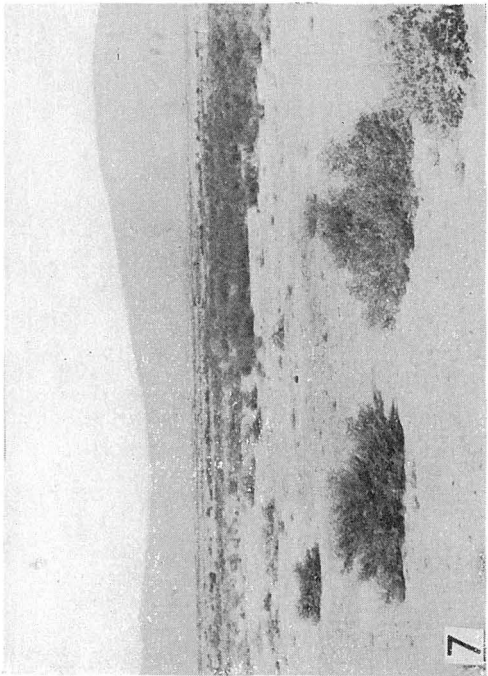
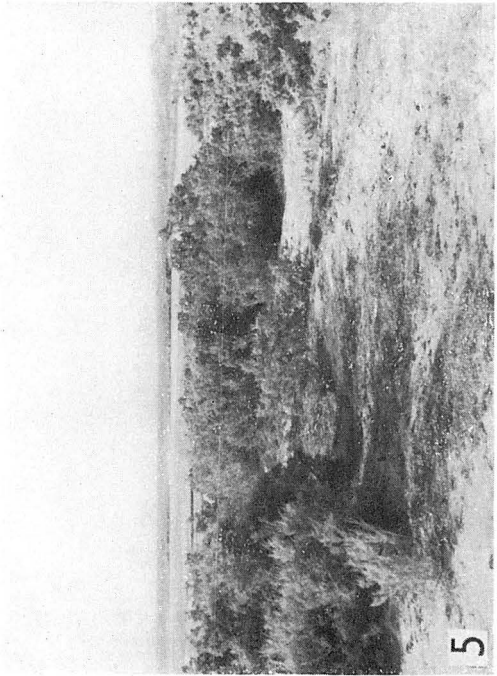
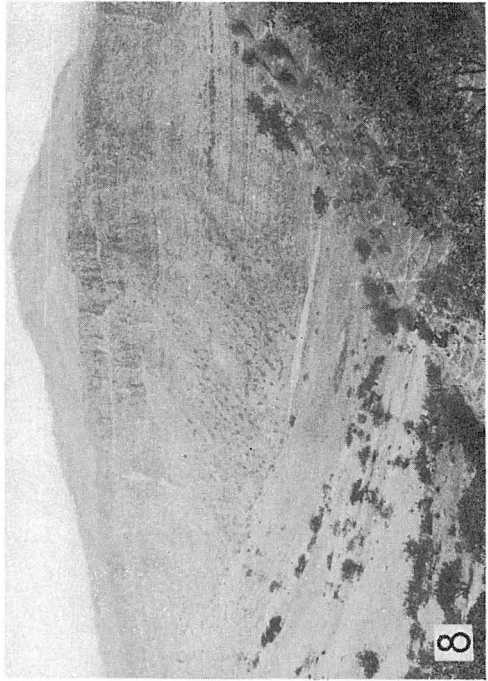
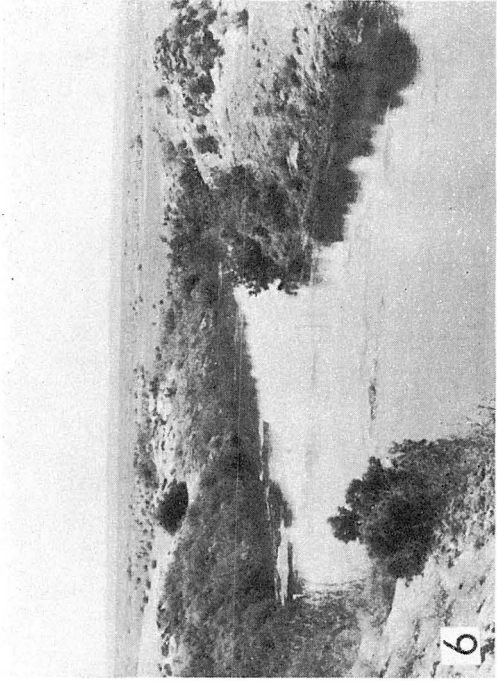
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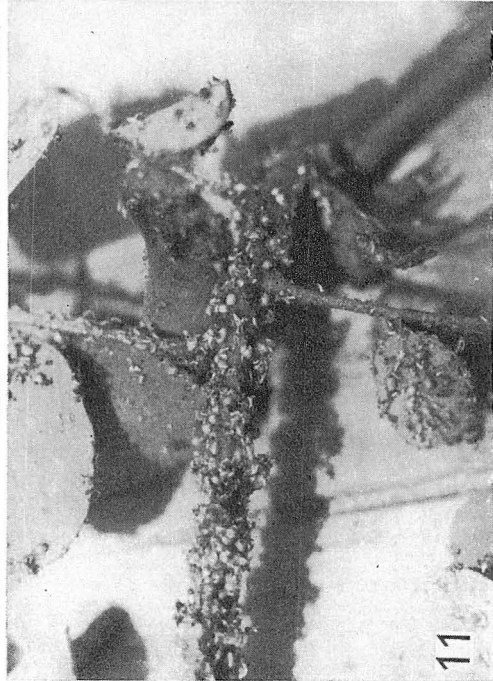
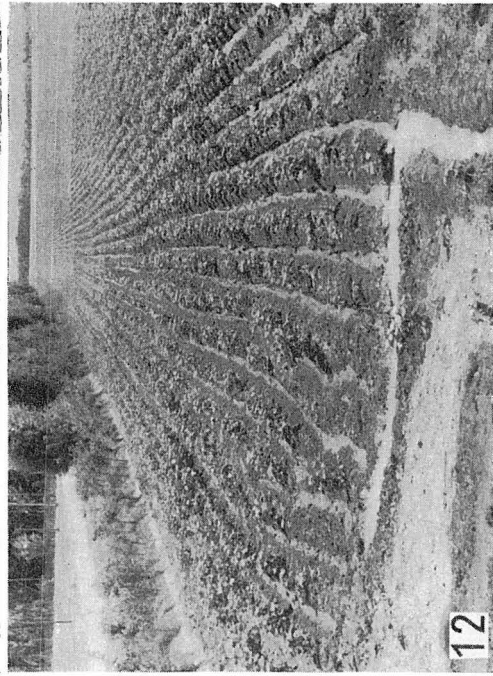
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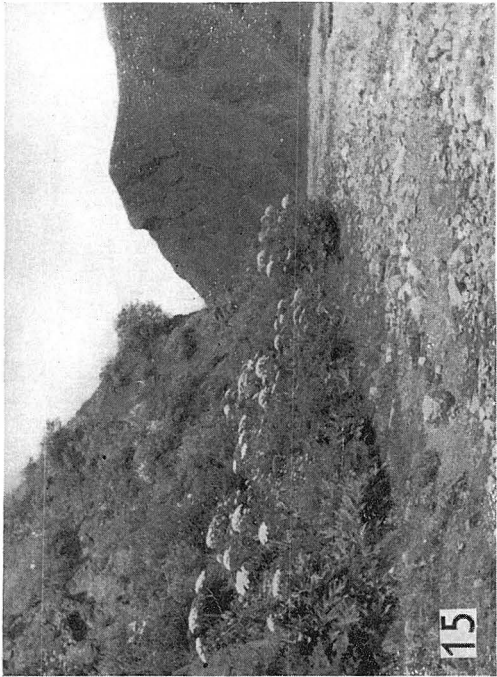
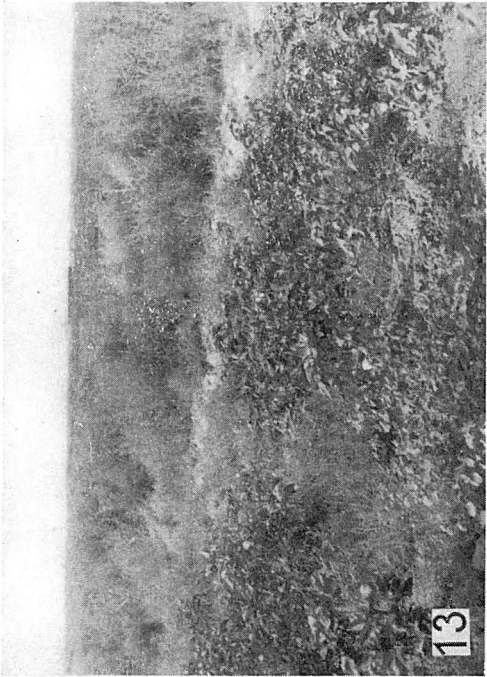
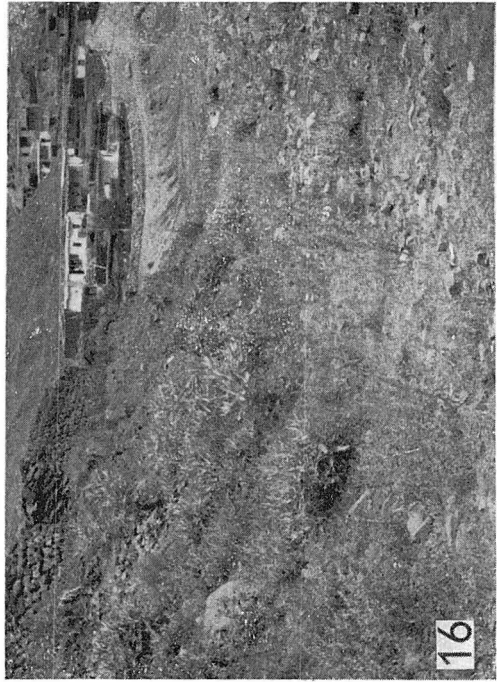
1. Узбекистан. Янги-юльский р., Ташкентская об. Растительность вблизи хауза (Salix, Populus). Uzbekistan, env. of Tashkent. Flora near a pond.
2. Узбекистан. Янги-юльский р., Ташкентская об. Поле хлопчатника, на левой стороне тутовник и пустырь — тип хронического очага паразитов. Uzbekistan, env. of Tashkent. Cotton field, on the left side Morus tree and waste land — a type of chronic focus of parasites.
3. Узбекистан. Янги-юльский р., Ташкентская об. Achillea sp. зараженная тлей, из которой был выведен *Lysiphlebus desertorum*, n. sp. Uzbekistan, env. of Tashkent. Achillea sp., infested by, from which *Lysiphlebus desertorum*, n. sp., was reared.
4. Таджикистан, окр. г. Душанбе. Предгорья Гиссарского хребта. Полупустыня, где встречаются хронические очаги паразитов тлей. Tajikistan, env. of Dushanbe. Ghissar mountains. Semi-desert, where chronic foci of aphid parasites occur.



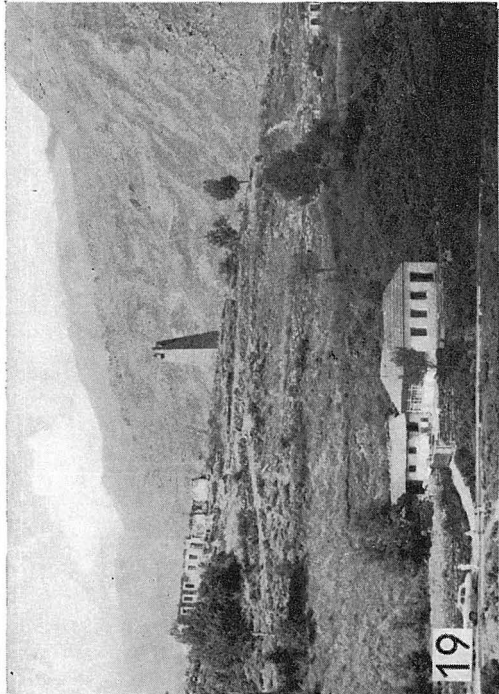
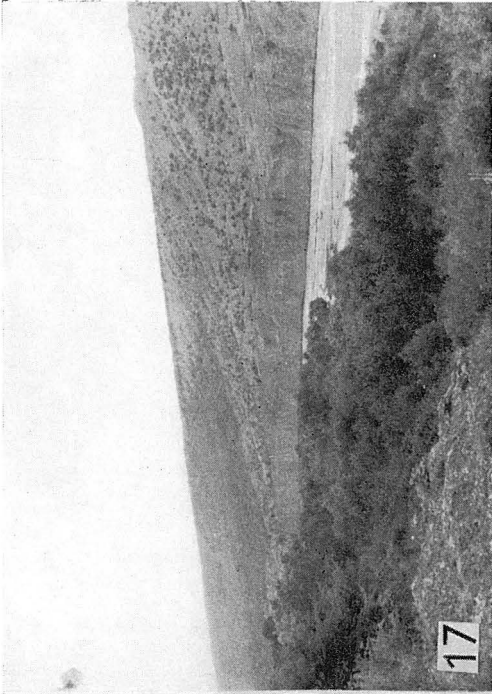
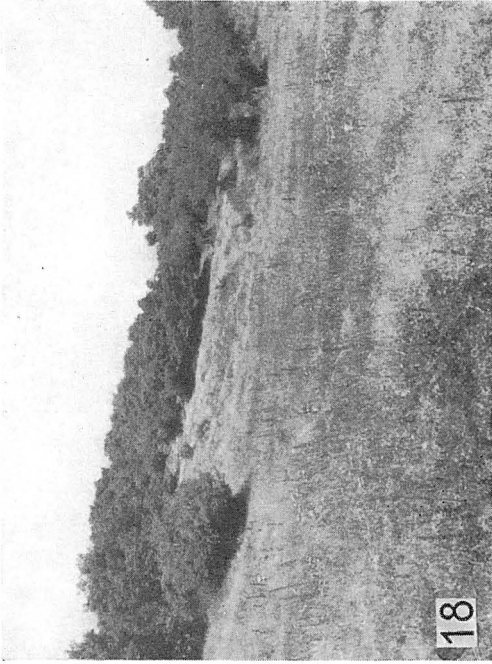
5. Таджикистан. Берег р. Вахш в окр. Курган—Тюбе. Заросли Tamarix, Lycium; хронические очаги паразитов тлей. Tajikistan. Bank of the river Vaksh, env. of Kourgan-Tyube. Tamarix, Lycium, where chronic foci of parasites occur.
6. Таджикистан. Бешкент. Соляная пустыня с речкой—родником, на берегах которой растут Populus alba, Salix sp., Tamarix и др. Хронические очаги паразитов тлей [*Lysiphlebus ambiguus* (Hal.)], откуда они расселяются по пустыне. Tajikistan. Beshkent. Salt desert with a small river, on banks of which Populus alba, Salix sp., Tamarix are growing, from where the aphid parasites spread in the desert.
7. Таджикистан. Бешкент. Соляная пустыня с типичной растительностью. Tajikistan. Beshkent. Salt desert with typical halophilous flora.
8. Таджикистан. Хребет Кок-Тау. Ганжино. Заросли фисташки на склонах. Tajikistan. Kok-Tau mountains. Pistacia forest on the slopes. Habitat of *Forda* spp. and their parasites. Natural community.



9. Таджикистан. Гиссарский хр., окр. с. Зидды, прибл. высота 3.000 м н. ур. м. Еще здесь встречается *Aphidius absinthii* Marshall как паразит *Macrosiphoniella* на *Artemisia* sp. Субальпийский луг. Tajikistan. Ghissar mountains, env. of the village Ziddy, appr. 3.000 m above sea level. Here *Aphidius absinthii* Marsch. occurs as a parasite of *Macrosiphoniella* sp. on *Artemisia*. Submontane meadow.
10. Таджикистан. Гиссарский хр. Заповедник Ромит. Тугай. Tajikistan. Ghissar mountain. Romit national preservation. "Tugai".
11. Таджикистан. Душанбе. Сильное заражение тли *Aphis craccivora* на белой акации паразитом *Lysiphlebus ambiguus* (Hal.). Tajikistan. Dushanbe. A heavy infestation of *Aphis craccivora* on *Robinia pseudoacacia* by *Lysiphlebus ambiguus* (Hal.).
12. Таджикистан. Окр. г. Душанбе. Орошаемое поле хлопка. На левой стороне остатки полупустынной растительности на берегу оросительного канала; хронический тип очага. Tajikistan. Env. of Dushanbe. Irrigated cotton field. On the left side there are stends of semi-desert flora on the river or irrigation channel; chronic type of parasite foci, from whence they spread in cotton field.



13. Туркмения. Тедженский оазис. Поле хлопчатника на освоенной пустыне. На берегу оросительного канала растут остатки пустынной растительности — здесь встречаются хронические очаги паразитов. Turkmenia. Tedzhen oasis. Cotton field in irrigated desert. There are stands of desert flora on the bank of irrigation channel — there chronic foci of parasites occur.
14. Туркмения. Окр. г. Ашхабад. Песчанная пустыня. Turkmenia. Env. of Ashkhabad. Sand desert.
15. Азербайджан. Растительность на берегу реки Карачай, в окр. села Рюк, Кубинский район. Естественный тип растительности. Azerbaidjan. Flora on the bank of the river Karatshaj, env. of the village Ryuk, Cuba distr. Natural type of flora.
16. Азербайджан. Берег реки Карачай, окр. с. Рюк. Кубинский район. Пустырь, где встречаются хронические очаги паразитов тлей (*Ephedrus campestris* Starý, etc.). Azerbaidjan. Bank of the river Karatshaj, env. of the village Ryuk, Cuba distr. Waste place, where chronic type of foci occur.



17. Азербайджан. Кубинский р., окр. г. Куба. Тугай, недалеко от которых сады. Хронический тип очагов паразитов тлей. Azerbaidjan. Cuba distr., env. of Cuba. "Tugai" forest. Chronic foci of parasites.
18. Грузия. Окр. г. Тбилиси. Лесостепь. Естественный биоценоз, хронические очаги паразитов тлей. Georgia. Env. of Tbilisi. Forest-steppe. Natural community, chronic foci of parasites.
19. Грузия. С. Сиони. На лугах встречаются паразиты тлей рода *Brachycaudus* — *Lysiphlebus fabarum* (Marsch.). Georgia. Env. of Sioni. There occurs *Brachycaudus* sp. in meadows, parasitised by *Lysiphlebus fabarum* (Marsh.).
20. РСФСР. Окр. г. Москва, с. Абрамцево. Тип лесного биоценоза с большим количеством дендрофильных тлей и паразитов. Env. of Moscow. Forest type habitat with quite a number of dendrophilous aphids and parasites.

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X. ЗАКЛЮЧЕНИЕ.

1. На территории СССР нами пока установлено около 64 видов паразитов тлей.
2. В палеарктической области встречаются в основном широко распространенные виды, хотя в будущем можно будет выделить некоторые фаунистические комплексы. Эндемические виды сравнительно редкие.
3. Пищевая специализация афидид очень разнообразна. С зоогеографической точки зрения, у полифагов и олигофагов есть специализация на группу или род тлей, при этом в рамках своего ареала заражают разные виды данного рода или группы тлей. Связи с биотопом имеет особое значение (правило смены стадий по Бей-Биенко).

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