

A new species of the genus *Areopraon* Mackauer, 1959 (Hymenoptera: Aphidiidae) from Western Siberia

Новый вид рода *Areopraon* Mackauer, 1959 (Hymenoptera: Aphidiidae) из Западной Сибири

Е.М. Davidian¹, А.В. Gavrilyuk²
Е.М. Давидьян¹, А.В. Гаврилюк²

¹All-Russian Research Institute of Plant Protection, Russian Academy of Agricultural Sciences, St. Petersburg – Pushkin 196608, Russia.
E-mail: GDavidian@yandex.ru

²Institute of Systematic and Ecology of Animals, Siberian Branch of the Russian Academy of Sciences, Novosibirsk 630091, Russia.
E-mail: aphids@mail.ru

¹Всероссийский научно-исследовательский институт защиты растений РАСХН, С.-Петербург – Пушкин 196608, Россия.

²Институт систематики и экологии животных СО РАН, Новосибирск 630091, Россия.

KEY WORDS: Aphidiidae, *Areopraon*, new species, Western Siberia.

КЛЮЧЕВЫЕ СЛОВА: Aphidiidae, *Areopraon*, новый вид, Западная Сибирь.

ABSTRACT. A new species, *Areopraon rasnitsyni* Davidian, **sp.n.**, is described from the Novosibirsk Province of Western Siberia. The main diagnostic characters of this species determine its intermediate position between the genera *Praon* and *Areopraon*. The holotype of the new species is deposited in the collection of the Zoological Institute of the Russian Academy of Sciences (St. Petersburg).

РЕЗЮМЕ. Из Новосибирской области (Западная Сибирь) описан новый вид *Areopraon rasnitsyni* Davidian, **sp.n.** По основным диагностическим признакам этот вид занимает промежуточное положение между родами *Praon* и *Areopraon*. Голотип нового вида хранится в коллекции Зоологического института РАН (С.-Петербург).

Introduction

The genus *Areopraon* Mackauer, 1959 recently includes seven species with mostly Palaearctic distribution, viz. *A. antiquum* Mackauer, 1967, *A. chaitophori* Tomanović et Petrović, 2009, *A. helleni* (Starý, 1981), *A. lepelleyi* (Waterston, 1926), *A. pilosum* Mackauer, 1959, *A. silvestre* (Starý, 1971) and *A. thailandicum* Starý, 2008. The species *A. helleni*, *A. lepelleyi* and *A. pilosum* were recorded only for the fauna of the former USSR [Davidian, 2007].

Systematic part

Diagnosis of the genus *Areopraon* Mackauer

Head transverse. Maxillary palps 4-segmented, labial palps 3-segmented. Female antenna 12–22-segmented, male antenna 18–20-segmented. Notauli on

mesoscutum almost entirely distinct. Propodeum usually carinate or with areola. Pterostigma longer than metacarp; radial vein not reaching apical margin of wing and radial (marginal) cell widely open. First abscissa of medial vein usually faintly indicated; second medial abscissa always distinct and usually fused with recurrent vein (m-cu, if this vein present). Basal cell of hindwing closed. Ovipositor sheaths usually densely pubescent in their apical halves. Larva pupates either inside or outside of mummified aphid.

Areopraon rasnitsyni Davidian, **sp.n.**

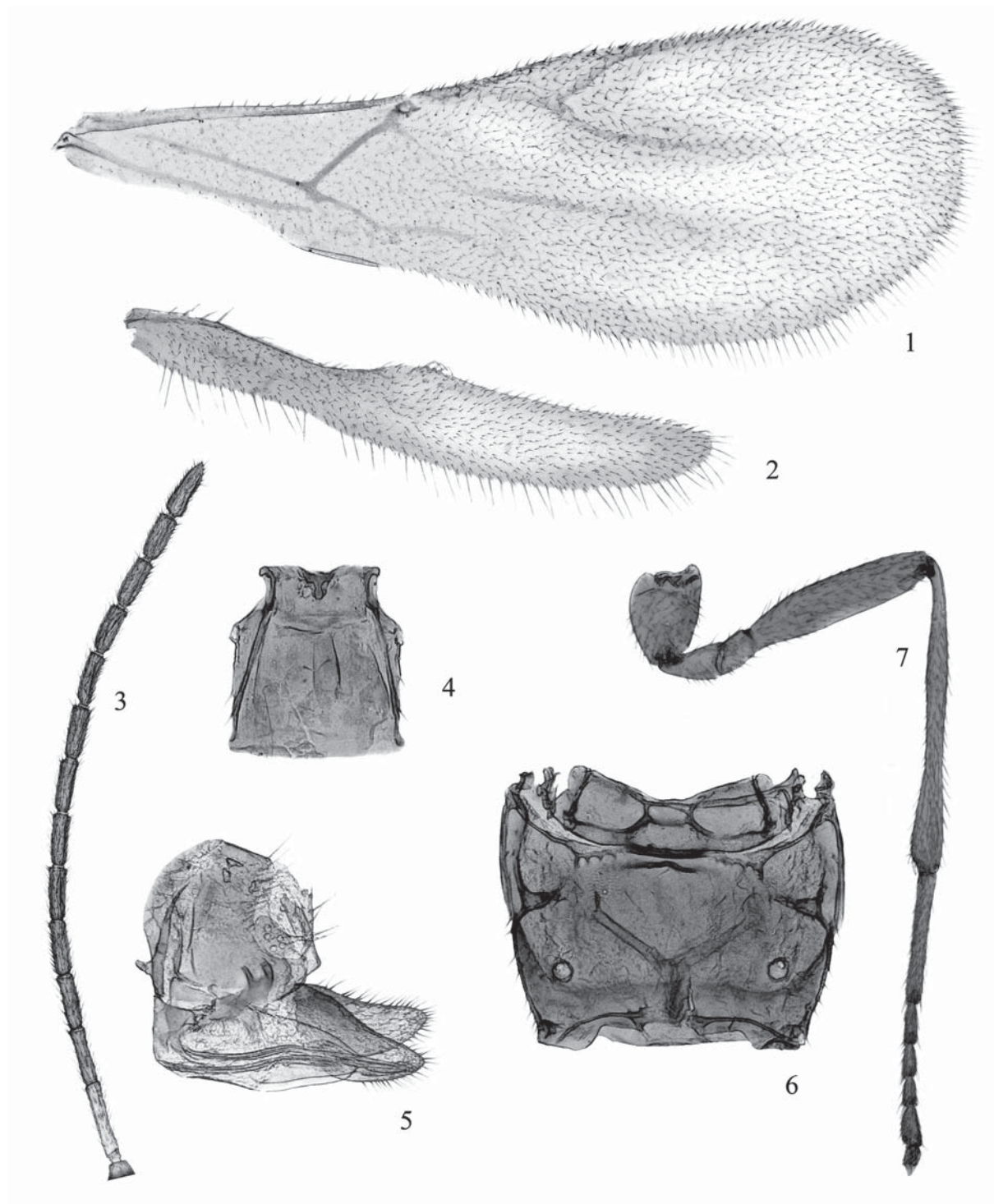
Figs 1–7.

TYPE MATERIAL. Holotype: female, Russia, Novosibirsk Province, Krasnozersk district, Khabarovsk Village, sweeping on the pasture, 30.VI.1988 (A. Alekseev leg.). Paratypes: male, Novosibirsk Province, Krasnozersk district, Lobino Village, sweeping, 25.VII.1988 (collector unknown).

DESCRIPTION. Female. Body length 1.5 mm; length of antennae 1.1 mm.

Head in dorsal view weakly transverse, wider than mesosoma at level of tegulae, smooth and shiny, with sparse setae. Eyes oval, without setae, below weakly convergent (in frontal view). Temple in dorsal view 0.3 times as long as eye. POL 3.0 times OD. Clypeus 2.0 times as wide as high. Tentorio-ocular line 0.25 times as long as intertentorial line. Maxillary palps 4-segmented, labial palps 3-segmented.

Antennae 15-segmented, filiform, not thickened to apex (Fig. 3). F1 (first flagellar segment) 1.3 times longer than F2, both these segments without longitudinal placodes. F1 5.3 times longer and F2 4.0 times longer their respective basal width.



Figs 1–7. *Areopraon rasnitsyni* sp.n., holotype. 1 — forewing; 2 — hindwing; 3 — antenna; 4 — petiole; 5 — ovipositor sheath; 6 — propodeum; 7 — hind leg.

Рис. 1–7. *Areopraon rasnitsyni* sp.n., голотип. 1 — переднее крыло; 2 — заднее крыло; 3 — антенна; 4 — стебелек; 5 — створка яйцеклада; 6 — пропodeум; 7 — задняя нога.

Mesosoma. Central lobe of mesoscutum with sparse and distinct setae, its lateral lobes with only a few setae at basal and preapical parts. Propodeum almost smooth, without keels and areola (Fig. 6).

Wings. Apical margin of forewing with long setae which are about 2.3 times longer than setae on wing membrane (Fig. 1). Pterostigma 5.0 times longer its width and 1.8 times longer than metacarp. Radial vein

slightly longer than metacarp and about 3.0 times longer than width of pterostigma. First abscissa of medial vein (Rs+M) darkened but its basal 0.25 hyaline. Second abscissa of medial vein darkened. Second abscissa of anal vein and nervulus (cu-a) absent. Veins around costal and basal cells of hindwing colourless and slightly indicated; basal vein invisible (Fig. 2).

Metasoma. Petiole subsquare, with strongly protruding spiracular tubercles, 1.1 times longer its width at level of tubercles, distance between spiracles and apical margin of tergite 0.75 times width on level of spiracular tubercles (Fig. 4). Second tergite without longitudinal protuberances (according to [Tomanović et al., 2009]). Apical half of ovipositor sheath with dense setae, with 17–18 setae along its weakly concave dorsal margin (Fig. 5).

Colour. Head dark brown, mouthparts, scape, pedicel, F1, promesosoma and legs yellowish. Rest part of antennae, meso- and metamesosoma and metasoma with ovipositor sheaths light brown.

Male. Body length 1.1 mm. Antennae dark brown, partly missing, right antenna with 9 segments and left antenna with 7 segments; funicular segments a little thicker. Petiole and hind femur light brown. Otherwise similar to female.

HOST. Unknown.

DIAGNOSIS. This new species easily differs from all other species of *Areopraon* by the structure of antenna, ecarinate propodeum and subsquare petiole. Forewing venation of the new species is very similar to that of *A. thailandicum* Starý [Starý et al., 2008], but its pterostigma and metacarp are longer.

TAXONOMIC REMARKS. *Areopraon rasnitsyni* sp.n. occupies a morphologically intermediate position between the genera *Praon* Haliday, 1833 and *Areopraon*. This species is similar to the genus *Praon* in the structure of propodeum, which is almost smooth and without any carinae, and it is closely related to the genus *Areopraon* by the dense pubescence of the ovipositor sheaths. We have therefore arbitrarily placed the new species within the genus *Areopraon*.

ETYMOLOGY. This new species is named in honour of Professor Alexandr Pavlovitch Rasnitsyn, the famous Russian hymenopterist and palaeontologist.

KEY TO SPECIES OF THE GENUS *AREOPRAON*

1. Propodeum smooth, without carinae and areola. Petiole subsquare. — Female antenna 15-segmented. Pterostigma 5.0 times as long as wide. F1 almost 5.3 times longer its basal width. Forewing without m-cu. Body length 1.1–1.5 mm. — Russia (Western Siberia)
..... *A. rasnitsyni* Davidian **sp.n.**

- Propodeum with carinae or areola. Petiole more or less elongate 2
- 2. Antennae 13–14-segmented. — Petiole long and slender, distance between spiracular tubercles slightly less than distance from spiracle to apical margin of tergite. Body length 1.8–2.6 mm. Parasite of *Eriosoma* sp. — Russia (Primorskiy Territory). — Western Europe, Georgia, India *A. lepelleyi* (Waterston)
- Antennae more than 15-segmented 3
- 3. Antennae 16–17-segmented 4
- Antennae more than 18-segmented 5
- 4. Petiole 1.6 times as long as its width at level of spiracles. Pterostigma 4.0 times as long as its maximum width. Propodeum with weakly marked areola. — F1 about 4.0 times as long as wide. Ovipositor sheath densely pubescent only in its preapical part. Body length 2.2–2.4 mm. — Russia (Komi Republic, Sakhalin I.). — Western Europe *A. helleni* (Starý)
- Petiole 1.25–1.33 times as long as its width at level of spiracles. Pterostigma 2.9–3.3 times as long as its maximum width. Propodeum with only two posteriorly divergent carinae, without areola. Body length 2.2–2.6 mm. Parasite of *Chaitophorus leucomelas* Koch, 1854 on *Populus nigra* Linnaeus, 1753. — Serbia
..... *A. chaitophori* Tomanović et Petrović
- 5. Antennae 19–20-segmented. Petiole distinctly elongate. Parasite of *Periphyllus* sp. on *Acer* sp. Body length 2.0–2.6 mm. — France, Bulgaria *A. silvestre* (Starý)
- Antennae 22-segmented. Petiole weakly elongate. — Ovipositor sheaths densely pubescent in apical half. Body length 2.6 mm. Parasite of *Pterocomma salicis* (Linnaeus, 1758) on *Salix caprea* Linnaeus, 1753. — Western Europe, Moldova *A. pilosum* Mackauer

ACKNOWLEDGEMENTS. We are very grateful to Dr. S.E. Tshernyshev, the Head of the Siberian Zoological Museum of the Institute of Systematic and Ecology of Animals (Novosibirsk), for his constant attention to our study.

References

- Davidian E.M. 2007. [Aphidiidae] // Lelej A.S. (ed.). Key to the insects of the Russian Far East. Vol.4. Neuropteroidea, Mecoptera, Hymenoptera. Pt.5. Vladivostok: Dal'nauka. P.192–254 [in Russian].
- Starý P., Sharkey M., Hutacharem C. 2008. Aphid parasitoid sampled by Malaise traps in the National parks of Thailand (Hymenoptera, Braconidae, Aphidiinae) // Thai Journal of Agricultural Science. Vol.41. No.1–2. P.37–43.
- Tomanović Ž., Petrović A., Kavallieratos N.G., Starý P., Toševski I., Bogdanović A.M. 2009. *Areopraon chaitophori* n. sp. (Hymenoptera: Braconidae: Aphidiinae) associated with *Chaitophorus leucomelas* Koch on poplars, with a key for European *Areopraon* Mackauer species // Annales de la Société Entomologique de France (n.s.). Vol.45. No.2. P.187–192.