

## A new species of the genus *Spilomicrus* Westwood (Diapriidae: Hymenoptera) from the Eastern Palaearctic

### Новый вид рода *Spilomicrus* Westwood (Diapriidae: Hymenoptera) из Восточной Палеарктики

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**Key words:** Hymenoptera, Diapriidae, *Spilomicrus*, Eastern Palaearctic fauna, new species.

**Ключевые слова:** Hymenoptera, Diapriidae, *Spilomicrus*, восточнопалеарктическая фауна, новый вид.

**Abstract.** A new species *Spilomicrus leleji* sp.n. from the Far East of Russia, South Korea and Japan is described and illustrated. This species is easily distinguished in the Eastern Palaearctic fauna by deep and coarse sculpture on the head and mesosoma.

**Резюме.** С Дальнего Востока России, Южной Кореи и Японии описывается и иллюстрируется новый вид *Spilomicrus leleji* sp.n. Этот вид хорошо отличается от других видов восточнопалеарктической фауны присутствием глубокой и грубой скульптуры на голове и груди.

### Introduction

The genus *Spilomicrus* is a poorly known group of parasitic wasps that comprise about 50 species in the Palaearctic Region [Johnson, 1992; Chemyreva, 2015a, b; Hymenoptera Online, 2016]. The fauna of the genus has especially high biodiversity and morphological variety in the south part of the Eastern Palaearctic [Chemyreva, 2015a, b]. A new species described below is characterized by deep and coarse punctuation of head and mesosoma. Several *Spilomicrus* species with similar sculpture are known in the World fauna. Moreover, Kieffer [1905] described from the Oriental Region the genus *Odontopria* Kieffer, 1905 eight species of which have strongly punctate head [Johnson, 1992; Hymenoptera Online, 2016]. One of this species, *O. carinifrons* (Kieffer, 1913), was studied by Nottou [2004] and transferred to *Spilomicrus*. Other *Odontopria* species have not been yet restudied for final decision about its validity or synonymy under *Spilomicrus*. However, the new species described here clearly belong to the genus *Spilomicrus* and exactly agrees with the generic diagnoses given by Masner [1991] and Masner and García [2002].

### Material and methods

The material examined in this study was collected using yellow pan traps, Malaise traps and by net sweep-

ing. Type material of new species is deposited in the collection the Zoological Institute of the Russian Academy of Sciences (ZISP, St Petersburg, Russia), some paratypes are in the Canadian National Collection of Insects (CNCI, Ottawa, Canada) and the National History Museum (BMNH, London, U.K.). Morphological terminology, measurements and abbreviations follow Masner and García [2002], Yoder [2004], Chemyreva [2015a, b] and the Hymenoptera Anatomy Ontology [Yoder et al., 2010]. All photographs were obtained using a Leica M165 stereomicroscope equipped with a Leica DFC450 camera. Image stacking was performed with Helicon Focus 5.0.

### Taxonomy

#### *Spilomicrus* Westwood, 1832

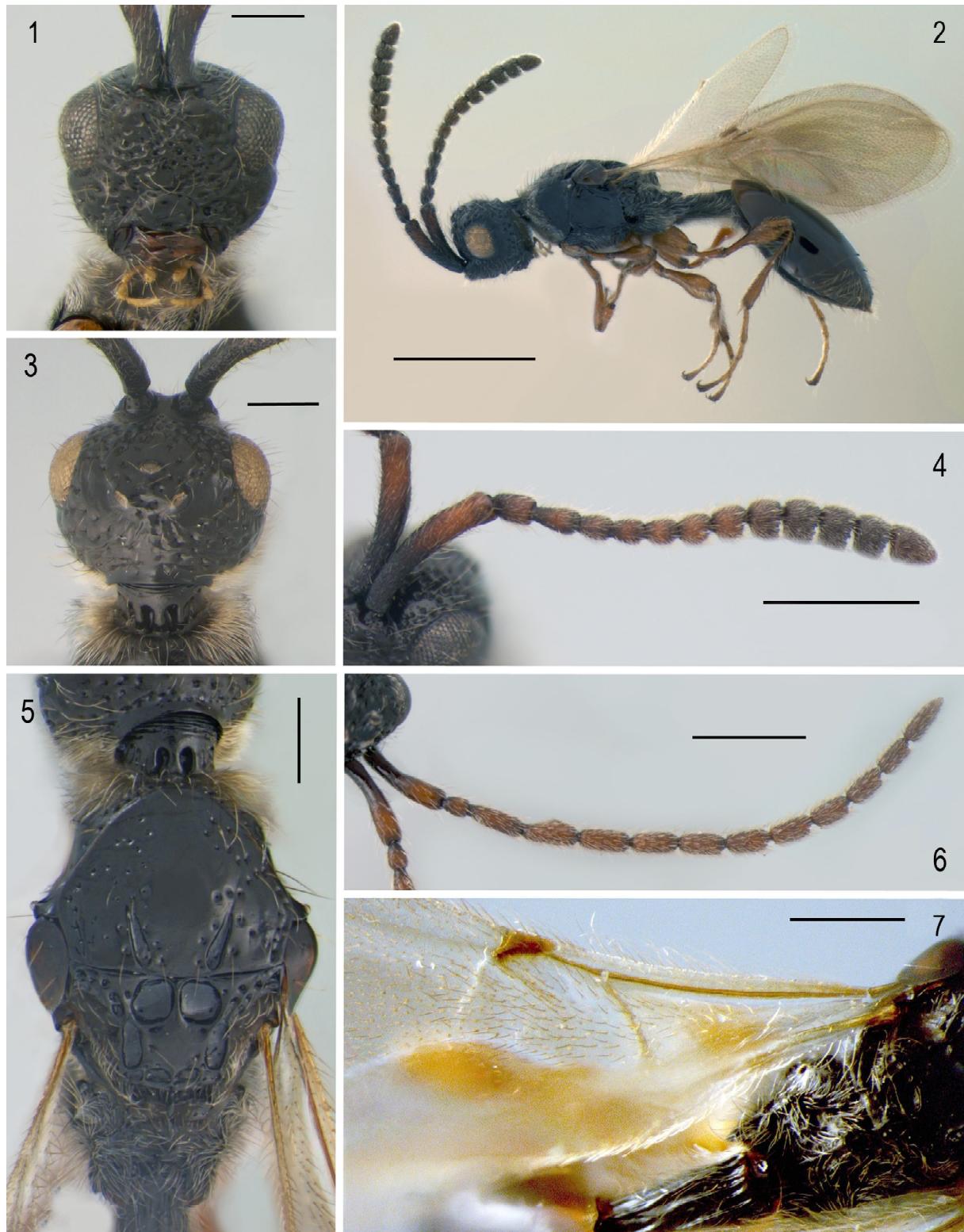
Westwood, 1832: 129

Type species: *Spilomicrus stigmatical* Westwood, 1832.

#### *Spilomicrus leleji* sp.n.

Figs 1–7.

**Type material.** Holotype. ♀, Russia, Primorskiy Terr.: vicinity of Spassk-Dal'niy, 14–19.VIII.2001, S. Belokobylskij leg. (ZISP). Paratypes. Russia: 23♀, 9♂♂, vicinity of Spassk-Dal'niy, 4.VIII–22.IX.1987, 19–23.VIII.1989, 17–18.VII.1991, 14.VIII–4.IX.2001, S. Belokobylskij leg. (ZISP BMNH); 3♂♂, Ussuriysk Nature Reserve, 28–30.VIII.1982, V. Tobias leg. (ZISP); 1♀, 1♂, same locality, 9.IX.1987 and 1.VIII.1993, S. Belokobylskij leg. (ZISP); 1♂, same locality, 25–27.VII.2010, E. Tselikh and D. Rachin leg. (ZISP); 1♀, 1♂, same locality, 7.VIII.1948, Gussakovskiy leg. (ZISP); 1♀, Gornotayozhnaya, 43°66' N, 132°25' E, 17–23.VII.2003, M. Michailovskaya leg. (ZISP); 1♂, same locality, 3.IX.1983, E. Budris leg. (ZISP); 1♂, same locality, 31.VII–5.VIII.1991, S. Belokobylskij leg. (ZISP); 3♂♂, Anisimovka, 10.VIII.1982, S. Belokobylskij leg. (ZISP); 2♀♀, vicinity of Khasan, 30.VIII.1988, S. Belokobylskij leg. (ZISP); 1♂, Southern Primoriye, 1992, A. Okulov leg. (CNCI). South Korea: 1♀, Mt. Sudo, 24.viii.1990, K. Yamagishi leg. (CNCI). Japan: 1♀, Hokkaido, Kamikawa Subpref., Aizankei, 800m, 4.VII.1989, M. Sharkey leg. (CNCI); 4♀♀, 11♂♂, Honshu, Ibaraki Pref., Tsuchiura, 24–31.VII.1989, 1–8.VIII.1989, 9–15.VIII.1989, 19.IX–2.X.1989 and 2–16.X.1989, M. Sharkey leg. (CNCI); 2♂♂, Ibaraki Pref., Honshu, Tsukuba,



Figs 1–7. *Spilomicrus leleji* sp.n., female (1–5, 7) and male (6): 1 — face; 2 — body, lateral view; 3 — head, dorsal view; 4 — antenna; 5 — mesosoma, dorsal view; 7 — petiole (dorsal view) and fore wing venation. Scale bar: 1, 3, 5, 7 — 0.2 mm; 2 — 1.0 mm; 4, 6 — 0.5 mm.

Рис. 1–7. *Spilomicrus leleji* sp.n., самка (1–5, 7) и самец (6): 1 — лицо; 2 — тело сбоку; 3 — голова сверху; 4, 6 — антenna; 5 — грудь сверху; 7 — стебелек брюшка сверху и жилкование переднего крыла. Масштабная линейка: 1, 3, 5, 7 — 0.2 мм; 2 — 1,0 мм; 4, 6 — 0,5 мм.

10.X.1999, S. Belokobylskij leg. (ZISP); 27♀♀, 9♂♂, Ibaraki Pref., Tsukuba, Expo Site, 31.V–8.VI, 24–31.VII, 1–8 and 15–29.VIII, 29.VIII–5.IX, 5–11.IX, 19.IX–2.X, 2–16.X and 16–27.X.1989, M. Sharkey leg. (CNCI); 11♀♀, 2♂♂, Tsukuba, NIAES, 24.IV–2.V, 31.V–8.VI, 8–15.VI, 26.VI–10.VII and 14–25.VII.1989, M. Sharkey leg. (CNCI); 1♀, Tsukuba City, Shishizuka-oike, 2–9.VIII.1989, M. Sharkey leg. (CNCI); 1♀, 1♂, Inagishi, Tokyo, 28.VII.1980, C. Yoshimoto leg. (CNCI); 3♀♀, 1♂, Niigata Pref., Kohridono Ojiya, 11–13.VIII.1990, K. Yamagishi leg. (CNCI).

**Description.** Holotype. Female (Figs 1–5, 7). Body length 3.2 mm. Fore wing length 2.5 mm. Antenna length 2.0 mm.

Colour. Body mainly black; tegulae dark brown; distal part of scape reddish brown, antennal segments A2–A13 dark brown; legs and palpi reddish brown.

Head. In dorsal view weakly transverse (26 : 24) and narrower than mesosoma (26 : 28); in lateral view higher than length (27 : 24). Head except clypeus coarsely punctate and covered by long setae. Tentorial pit distinct. Malar sulcus absent. Clypeus semicircular, transverse (15 : 10). Mandibles bidentate, with equal teeth. Eye large, oval (12 : 10), pubescent by long setae; malar space 0.5 times as high as eye. Ratio of pleurostomal distance to width of head 13 : 25. Eye about 0.5 times as high as head. Ocelli distinctly oval (Fig. 3), LOL 1.5 times longer than width of anterior ocellus. POL shorter than OOL (8 : 12). Occipital flange narrow and smooth. Postgena with dense pale cushion of fine setae.

Antenna. With non-abrupt clava (Figs 2, 4). A1 cylindrical, curved, slightly broadened apically with simple apical rim, covered by fine punctuation and numerous long setae. A2 rounded apically and attenuate at base. A9–A13 slightly flattened on ventral side, with MGS brush. In lateral view, connection between A8–A13 situated dorsally (Fig. 4). A13 narrower than A12, with ventral tip. Ratios of length to width of antennal segments in dorsal view: 30 : 6.5; 8 : 5.5; 9 : 4.5; 7 : 4.5; 6.5 : 4.5; 6 : 4.5; 6 : 5; 6 : 6; 7 : 7; 7 : 8; 7 : 8; 9 : 7.

Mesosoma. In lateral view distinctly longer than high (50 : 28); in dorsal view distinctly longer than wide (50 : 32). Neck bare, with deep longitudinal grooves (Figs 3, 5). Pronotal cervical area pubescent; pronotal cushion dense. Anterior and dorsal parts of pronotum with deep sparse punctures; lateral pronotal area with punctuation ventrally. Pronotal shoulders rounded, bare. Propleuron smooth, covered with dense silvery pubescent. Anterior incision of mesopleuron distinct, with setae. Mesopleuron smooth, shining and bare in lateral side, with punctuation and pale setae ventrally. Sternaulus extending from anterior incision of mesopleuron to posterior margin of mesopleuron as sharp keel. Acetabular carina sharp, strongly prominent and dislocated posteriorly in medial part; postacetabular sulcus absent. Mesodiscritment shallow. Mesopleural epicoxal carina developed only laterally; mesopleural epicoxal sulcus absent. Mesoscutum wider than length (37 : 30). Notauli well impressed, broad and short, extending to third of mesoscutum length. Humeral sulcus deep and broad. Deep setigerous punctures situated on mesoscutum anteriorly, near humeral sulcus and notauli (Fig. 5). Scutellum flattened, with two large oval anterior scutellar pits. Axilla with deep setigerous punctures. Axillar depression pubescent and smooth. Lateral scutellar pits broad and long. Posterior scutellar pits large and deep (Fig. 5). Metascutellum pubescent, with deep punctuation, with strongly projecting median keel and one lateral keel. Median propodeal keel projecting into long spine directed upward; propodeum entire coarsely rugose, with pale setae and several longitudinal irregular keels. Propodeum in dorsal view with posterior

margin arcuate and with notch in ventral side. All legs long and slender, with delimited trochantellus.

Wings clear. Fore wing with marginal vein elongated (10 : 3); stigmal vein shorter than width of marginal vein. Submarginal vein tubular, sclerotized. Costal and basal veins nebulosus. Ratio of largest width to length of fore wing 19 : 50.

Metasoma. Petiole cylindrical, elongated (11 : 8), with deep longitudinal grooves and entirely pubescent (Fig. 7). T2 with short sparse setae, smooth. T3–T5 each with fine dense punctuation and with one row of long setae, setae becoming denser on lateral part of tergites. T5 expanded laterally and covered with numerous short and long setae at sides. T6 small, T7 pointed. S2 smooth, with dense cushion at anterior margin; its posterior surface with scattered setae. S3–S5 with dense punctuation and one row of long setae. Apical sternite with coarse and denser punctuation, and covered with short setae apically.

**Variation.** Body length 2.1–4.5 mm. Metasoma except petiole dark brown to black; antenna entire dark brown to reddish brown. Fore wing extending to half of metasoma or distinctly longer than it. Petiole 0.3–0.4 times as long as mesosoma. A3 equal to or longer than A2.

**Male.** Body length 2.5–3.2 mm. Similar to female, but differs in antennal structures and metasomal petiole proportions. Antenna red to dark brown, A1 dark in proximal half and A2 darkened at base; A4 weakly excavate with keel reaching 0.7–0.8 of its length (Fig. 6). Ratio of length to width of antennal segments in dorsal view: 15 : 3.5; 4 : 3; 9 : 3; 9 : 3; 8 : 3; 7 : 3; 7 : 3; 7 : 3; 6 : 3; 6 : 3; 6 : 3; 6 : 3; 8 : 2.5. A3 equal to or longer than A5. Petiole long, 0.3–0.5 times as long as mesosoma.

**Diagnosis.** This new species differs from all known Palaearctic species by having the head with coarse deep punctate sculpture, as well as pronotum, mesonotum and scutellum with deep punctuation. In the Palaearctic fauna this species is similar to *S. hemipterus* Marshall, 1868 [Kieffer, 1911], but differs from it by two main features: tentorial pit distinct (absent in *S. hemipterus*) and posterior scutellar pits large (Fig. 5) (small in *S. hemipterus*).

**Etymology.** Named in honor of well-known Russian hymenopterist and expert on Mutillidae Professor Arkadiy Stepanovich Lelej.

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