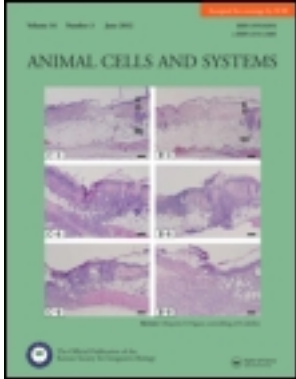


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Description of two new species from South Korea and Russian Far East with a key to the Palearctic species of the genus *Brachyserphus* Hellén (Hymenoptera, Proctotrupidae)

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A taxonomic study of the Palearctic species of the genus *Brachyserphus* is presented. Two species are newly described as *B. acuticaudatus* sp. n. and *B. semipunctatus* sp. n. from South Korea and the Russian Far East. *B. striatopropodeatus* (Kolyada 1997 syn. n.) is synonymized under *B. lucens* (Provancher 1883) and a key to the Palearctic species is provided.

Keywords: Proctotrupidae; *Brachyserphus*; *B. acuticaudatus*; *B. semipunctatus*

Introduction

The genus *Brachyserphus* Hellén (Proctotrupidae) consists of 15 species worldwide (including a two new species described below; Kolyada 1997; Townes and Townes 1981), but distributed primarily in the Northern Hemisphere (Townes and Townes 1981). Previously, only four Palearctic species of *Brachyserphus* were reported: the Holarctic *B. parvulus* (Nees), the extremely rare European *B. laeviceps* (Thomson) (Johnson 1992; Kozlov 1978; Pschorn-Walcher 1964; Townes and Townes 1981), and two species from the Russian Far East, *B. striatopropodeatus* Kolyada and *B. nudipleuralis* Kolyada (Kolyada 1997).

The biology of this genus is poorly studied. The larvae of the coleopteran families Erotylidae, Phalacridae, Melandryidae, Mycetophagidae, and Nitidulidae (Hoebeke and Wheeler 1990; Townes and Townes 1981; Williams et al. 1992) were mentioned as hosts.

In this study, we provide a revised key to the Palearctic species of the genus *Brachyserphus*, descriptions of *B. acuticaudatus* sp. n. and *B. semipunctatus* sp. n. from South Korea and the Russian Far East, and a new synonym on *B. lucens* (= *B. striatopropodeatus* syn. n.).

Materials and methods

Specimens studied were collected with Malaise traps (MT) and by sweeping. The morphological terms and characters used follow Townes and Townes (1981) and Mikó et al. (2007), with additions. All photographs were obtained using a Leica M125 stereomicroscope equipped with a Leica DFC450 camera. The montage

of the image layers was prepared using Helicon Focus 5.0.

Collecting sites were abbreviated based on the provinces of South Korea in which they were located as follows: (GN), Gyeongsangnam-do; (GB), Gyeongsangbuk-do; (JJ), Jeju-do; (JB), Jeonrabuk-do; (CN), Chungchongnam-do; (GG), Gyeonggi-do; (GW), Gangwon-do. Specimens are deposited in the following institutions: AEI, American Entomological Institute, Gainesville, Florida, USA; BMNH, British Museum of Natural History, London, UK; CNCI, Canadian National Collection of Insects, Ottawa, Canada; NHRS, Naturhistoriska Riksmuseet, Stockholm, Sweden; ULQC, University of Laval, Quebec, Canada; YUGK, Animal Systematic Laboratory of Yeungnam University, Gyeongsan, South Korea; ZISP, Zoological Institute, St. Petersburg, Russia. The names of Russian collectors are abbreviated as follows: SAB, S.A. Belokobylsky; DRK, D.R. Kasparyan; VIT, V.I. Tobias.

Taxonomy

Genus Brachyserphus Hellén

Brachyserphus Hellén, 1941: 42.

Type species: *Codrhus parvulus* Nees von Esenbeck, 1834, by original designation.

Diagnosis. Front wing 1.3–3.5 mm long. Body stout and somewhat compressed laterally. Head broad, transverse. Clypeus with apical margin simple and not bordered by longitudinal carina; distance between antennal sockets equal to their diameter. Distance from margin of clypeus to center of tentorial pits less

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than distance to lower margin of antennal sockets by 1.0–1.5. Mandible moderately stout, with single pointed tooth. Gena without sulcus. Occipital carina present but not reaching hypostomal sulcus. Male flagellum without noticeable tyloids. Pronotum with prominent pronotal shoulder. Epomia present. Pronotal shoulders pointed dorsally and laterally with carina on edge. Scutellar pit without inner longitudinal carinae. Notaulus present only anteriorly and about as long as tegula. Horizontal mesopleural groove complete and strong. Stigma very deep, r-rs (vertical part of radius) not clear, radial vein extending through lower margin of stigma. Costal vein ending at apex of radius. Metatibial spur at most 0.5 length of basitarsus. Metasoma without distinct petiole. Ovipositor sheath 0.4–0.9 times as long as metatibia, stout, smoothly rounded apically or more or less acuminate, covered with erect hairs, especially in the lower part.

Remarks. The species of the genus *Brachyserphus* are difficult to identify because of the wide range of variations in their characteristics. True identification is possible when a long series of specimens are used. Males are still practically unidentifiable; so only some of them were keyed (Townes and Townes 1981).

Key to the Palearctic species of *Brachyserphus*

1. Metatibia with spurs hooked, short, and thickened (Figure 1B). Ovipositor sheath with apex smoothly rounded ventrally (Figure 3A). Length of ovipositor sheath 0.88 times as long as metatibia*B. lucens*

- Metatibia with spurs normally shaped, straight, and thin (Figure 1A). Ovipositor sheath with apex more or less acuminate ventrally (Figure 3B–G). Length of ovipositor sheath is less than 0.88 times as long as metatibia 2

2(1). Pronotal shoulders and side of pronotum with several horizontal and oblique wrinkles (Figure 2C). Metapleurum with metapleural epicoxal carina. Length of ovipositor sheath is 0.53 times as long as metatibia (Figure 3E) *B. hawaiiensis*

- Pronotal shoulders and side of pronotum without horizontal and oblique wrinkles (Figure 2A, B, D) . 3

3(2). Metapleurum without metapleural epicoxal carina (Figure 2D). Length of ovipositor sheath is 0.55–0.6 times as long as metatibia (Figure 3B). *B. nudipleuralis*

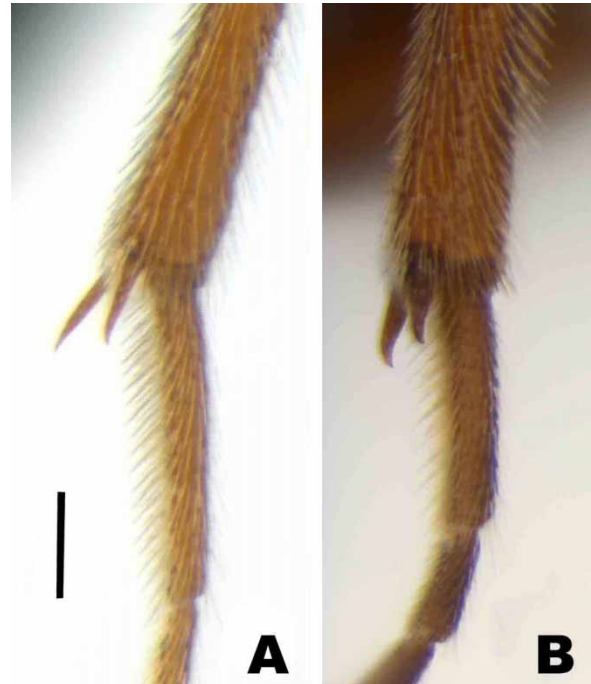


Figure 1. Spurs on tibia of hind legs: (A) normally shaped, (B) *B. lucens*. Scale bar: 0.1mm.

- Metapleuron with metapleural epicoxal carina sometimes only in apical one third (Figure 2A–C) 4

4(3). Female only. Ovipositor sheath markedly widened in apical half (Figure 3F) *B. laeviceps*

- Ovipositor sheath almost the same width in apical half. 5

5(4). The punctated area in the anterior part of the fifth tergite neither reaching one-half of its length nor including the row of hairs in the posterior part of tergite (Figure 4B). The ninth flagellomere of antennae a little longer and narrower, 1.7 as long as broad (Figure 4D) *B. semipunctatus* sp. n.

- The punctated area in the anterior part of the fifth tergite reaching two-third of its length and includes or reaches the row of hairs in the posterior part of tergite (Figure 4A). The ninth flagellomere of antennae a little shorter and wider, 1.2–1.3 as long as broad (Figure 4C) 6

6(5). Ovipositor sheath slightly curved, and narrowly pointed apically (Figure 3D). Maxillary palpus dark-brown *B. acuticaudatus* sp. n.

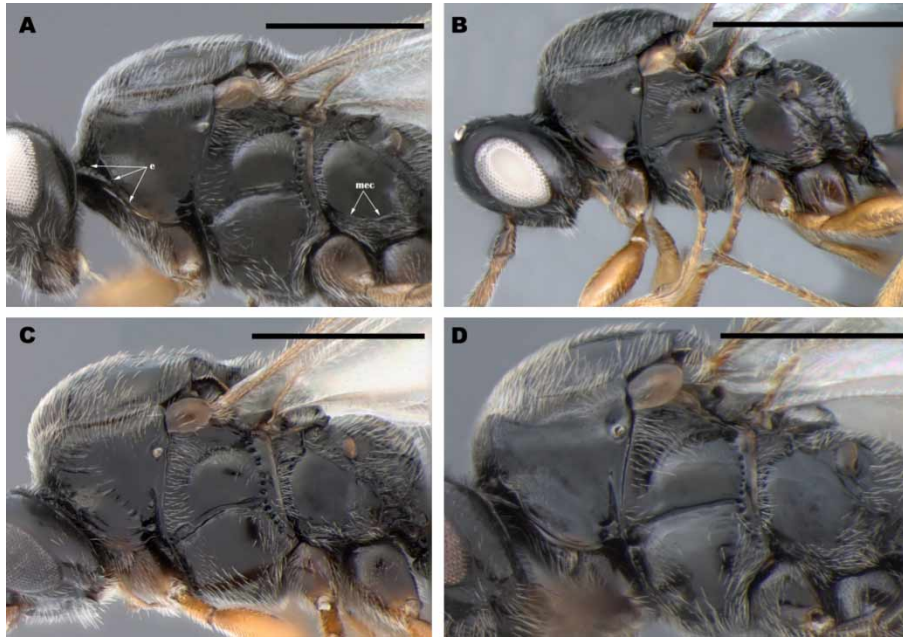


Figure 2. Mesosoma, lateral view: (A) *B. parvulus*, (B) *B. acuticaudatus* sp. n., (C) *B. hawaiiensis*, (D) *B. nudipleuralis*. Scale bar (A–D): 0.5mm.

*e: epomia, mec: metapleural epicoxal carina.

- Ovipositor sheath widely pointed apically (Figure 3C).
Maxillary palpus yellow, rarely light-brown *B. parvulus*

***Brachyserphus acuticaudatus* Kolyada sp. n.**

(Figure 2B, 3D, 4A, C, 5B)

Type material

Holotype: female. **RUSSIA. Primorsk reg.:** ‘RUSSIA, Primorskii krai/10 km South-East Chernogolovka/26–29.viii.1998/S.A. Belokobylsky.’ (ZISP), ‘HOLOTYPE /*Brachyserphus/acuticaudatus* Kolyada sp. n.’ (ZISP). Condition: good whole.

Paratypes. RUSSIA. Buryatia: 1♀, ‘Kyakhta, Dungaj, Kudara-somon/8–9.viii.1973/D.R. Kasparyan’ (ZISP); **Amursk reg.:** 1♀, ‘Zeya Reserve, cordon 52 km, 2.ix.1981/V. Alekseev’ (ZISP); **Khabarovsk reg.:** 1♀, ‘Amur River, Udyl Lake/29–31.viii.1970, D.R. Kasparyan’ (ZISP); 1♀, ‘Khekhzir Mts, 3.vii.1982/D.R. Kasparyan’ (ZISP); **Primorsk reg.:** 1♀, ‘Vladivostok, 11.ix.1982/V.I. Tobias’, 1♀, ‘24.viii.1988/S.A. Belokobylsky’ (ZISP); 1♀, ‘15 km E Spassk, 16.ix.1988/S.A. Belokobylsky’ (ZISP), 1♀, ‘Spassk, 20–22.ix.1988/S.A. Belokobylsky’, 1♀, ‘25.vii.1996/S.A. Belokobylsky’ (ZISP); 1♀, ‘20 km SE Ussurijsk/GTS, 28–31.viii.1978/D.R. Kasparyan’, 1♀, ‘2–3.viii.1991/S.A. Belokobylsky’ (ZISP); 2♀, ‘Anisimovka, 4.ix.1982/V.I. Tobias’, 1♀, ‘Anisimovka, 4–7.viii.91/S.A. Belokobyls-

ky’, 1♀, ‘5–9.vii.1993/S.A. Belokobylsky’ (ZISP); 1♀, ‘Kedrovaya Pad’ Reserve/27–30.viii.1995, S.A. Belokobylsky’ (ZISP); 1♀, ‘Novokachalinsk, Khanka Lake/29.viii.1987, S.A. Belokobylsky’, 1♀, ‘Novokachalinsk, Khanka Lake/7.viii.2006, S.A. Belokobylsky’ (ZISP); 1♀, ‘Khasan, 11.viii.1984/A. Kirejchuk’ (ZISP); 1♀, ‘10 km SE Chernogolovka/26–29.viii.1998, S.A. Belokobylsky’ (ZISP); **Sakhalin reg.:** 1♀, ‘Kunashir I., Golovina Mt./25–27.vii.1981, S.A. Belokobylsky’ (ZISP). **SOUTH KOREA. (GN):** 1♀, ‘Dapcheon-ri, Ibanseong-myeon, Jinju-si, 27.vi–4.vii.2005, /B.K. Ahn’ (YUGK); 1♀, ‘Samjeong-ri, Macheon-myeon, /Hamyang-gun, Jirisan, /22.vi–6.vii.2003’ (CNCI); **(GW):** 1♀, ‘Woljeongsa, Dongsan-ri, /Odaesan, 19.vii–18.viii.2003’ (CNCI).

Description. Female.

Body length 3.0–3.2 mm, Forewing length 2.0–2.2 mm. Antenna short, length to width ratio of second flagellomere 1.67–2.0. Pronotum and pronotal tubercle smooth, without wrinkles. Epomia not interrupted and dorsally connected with carina to pronotal shoulder. Metapleurum with developed metapleural epicoxal carina. Propodeum just behind spiracle and apical area of dorsum finely reticulate. Propodeum dorsolaterally with ca. 35–40 hairs. Ratio of ovipositor sheath to metatibia length 0.5–0.6. Ovipositor sheath slightly curved, and narrowly pointed apically, with hairs on its lower surface ca. 0.25 as long as sheath height.

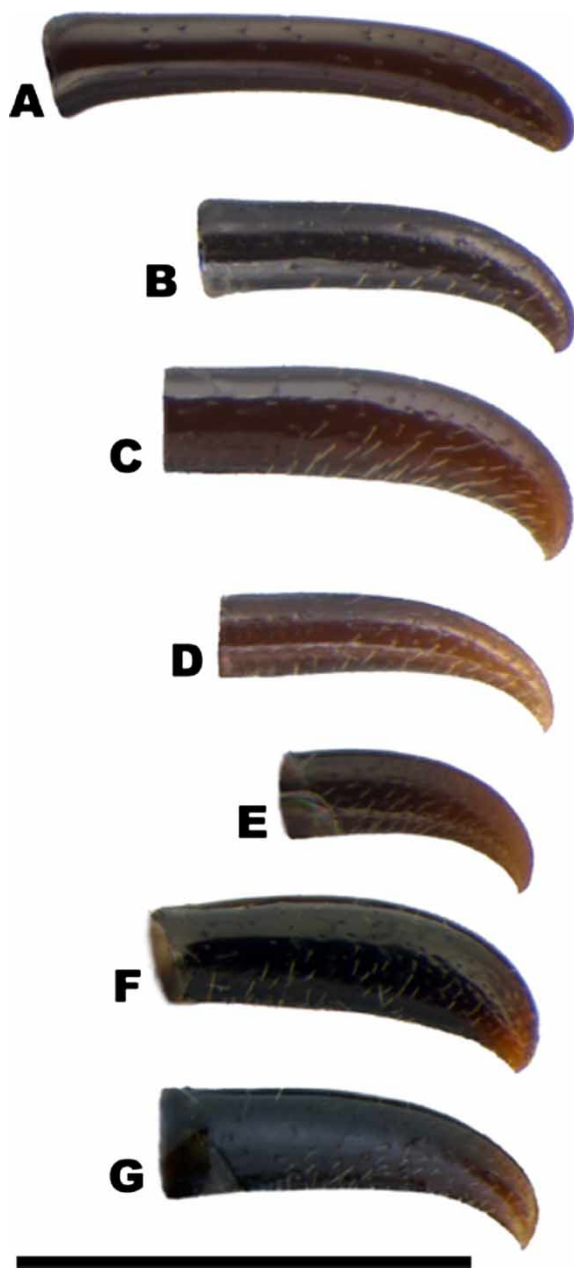


Figure 3. Ovipositor sheath, lateral view: (A) *B. lucens*, (B) *B. nudipleuralis*, (C) *B. parvulus*, (D) *B. acuticaudatus* sp. n., (E) *B. hawaiiensis*, (F) *B. laeviceps*, (G) *B. semipunctatus* sp. n. Scale bar (A–G): 0.5mm.

Color. Body black. Labrum, mandibles, tegula, and legs except coxa yellow or light brown. Coxae black to dark brown. Maxillary palpus of dark-brown. Scapus almost always darkened ventrally, remainder of antenna yellowish becoming darker towards apex.

Male unknown.

Comparison. Similar to *B. parvulus* (Nees von Esenbeck 1834) in many characteristics, but differs by the slightly

curved and narrowly pointed ovipositor sheath apex and maxillary palpus of dark-brown color.

Distribution. Far East of Russia, South Korea.

Brachyserphus hawaiiensis (Ashmead 1901)

(Figure 2C, 3E, 5C)

Proctotrupes hawaiiensis Ashmead, 1901: 294.

Holotype: female, (BMNH).

Material examined (non-type)

SOUTH KOREA. (JJ): 1♀, Jeolmul-Oreum Bonggaedong Jeju-si, 9–16.vii.2005, C.H. Sin (YUGK); **USA.** Hawaii: 48♀, Hawaiian Islands, Volcano N.P., 20.xi.1989, MT, J.C. Allen (CNCI).

Distribution. South Korea, Hawaii.

Remarks. This species was previously only identified in Hawaii but was recorded for the first time in the Palearctic region as having been collected at Jeju Island, South Korea. Type material was examined by other well known vouchers.

Brachyserphus laeviceps (Thomson 1858)

(Figure 3F)

Proctotrupes laeviceps Thomson, 1858: 416.

Holotype: female, (NHRS)

Material examined (non-type)

RUSSIA. [European part]: **Yaroslavl reg.:** 1♀, Berdit-syno, 24.viii.1894, A. Yakovlev (ZISP); **Moscow reg.:** 2♀, 2♂, Pavlovskaya Sloboda, 1.vii.1995, V. Kolyada (ZISP); **Kareli[0]a:** 2♀, West Kivach, 31.viii.2003, A. Humala (ZISP).

Distribution. North and Central Europe (Hedqvist 2007; Townes and Townes 1981; Zetel 1991), European Part of Russia (Kolyada 1997; Kozlov 1978).

Remarks. Type material was examined by other well known vouchers.

Brachyserphus lucens (Provancher 1883)

(Figure 1B, 3A, 5D)

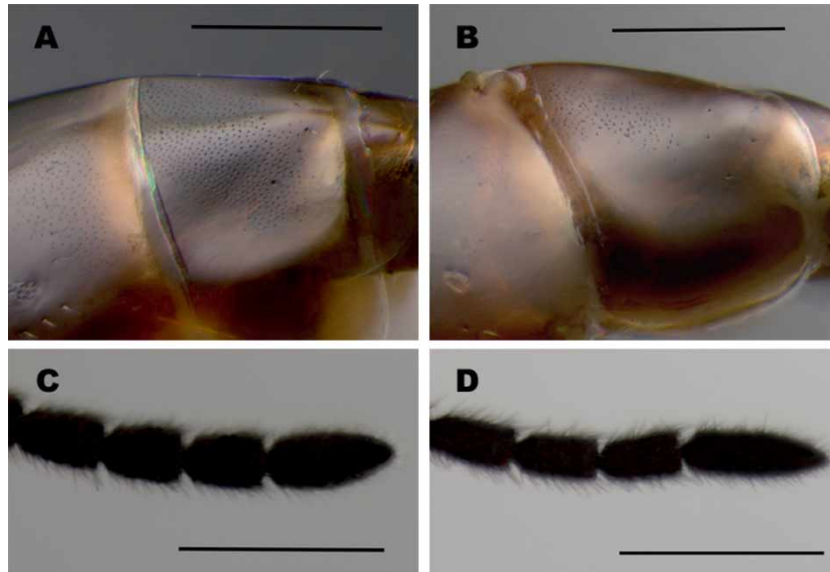


Figure 4. Fifth tergite and ninth flagellomere of antennae in lateral view: (A, C) *B. parvulus* or *B. acuticaudatus* sp. n., (B, D) *B. semipunctatus* sp. n. Scale bar (A–D): 0.5mm.

Megaspilus lucens Provancher, 1883: 33.

Holotype: female, (ULQC) (not examined).

Brachyserphus striatopropodeatus Kolyada, 1997: 1. **syn. n.**

Type material examined

Brachyserphus striatopropodeatus Kolyada. **Holotype:** female. **RUSSIA. Primorsk reg.:** ‘RUSSIA, Primorskii krai/Anisimovka, 4–5.ix.1988/S.A. Belokobylsky leg.’, ‘HOLOTYPE/*Brachyserphus/striatopropodeatus* Kolyada sp. n.’ (ZISP). Condition: good, no part missing.

Paratypes. RUSSIA. Primorsk reg.: 1♀, ‘Vladivostok, 24.viii.1988/S.A. Belokobylsky’ (ZISP); 1♀, ‘Anisimovka, 4–5.ix.1988/S.A. Belokobylsky’ (ZISP).

Additional material examined (non-type)

RUSSIA. [Far East]: Primorsk reg.: 1♀, Khasan, 5.x.1980, Kupyanskaja (ZISP); 5♀1♂, 15 km SW Slavyanka, Ryazanvka, 14–23.ix.1995, SAB (ZISP); 1♀1♂, 25 km SW Slavyanka, 18–20.viii.1998, SAB (ZISP); 1♀, Khasan Lake, 30.viii.2003, SAB (ZISP); 2♀, 10 km SE Chernogolovka, 26–29.viii.1998, SAB (ZISP); 2♀, Vladivostok, 4–7.ix.2003, SAB (ZISP). **USA. Michigan,** 1♀, Ann Arbor, 5–6.x.1975, M.G.Fitton (AEI).

Distribution. Holarctic: Russia (Far East), North America.

Diagnosis. After studying a large series of specimens of *B. striatopropodeatus* it became obvious that the primary distinctive characteristic of this species, the longitudinal reticulation on propodeum laterally, is variable. The form of ovipositor sheath, and thick, hooked and short spurs on metatibia, indicate it belongs to the Nearctic species *B. lucens*.

Brachyserphus nudipleuralis Kolyada, 1997

(Figure 2D, 3B, 5E)

Brachyserphus nudipleuralis Kolyada, 1997: 1.

Type material examined

Brachyserphus nudipleuralis Kolyada. **Holotype:** female. **RUSSIA. Primorsk reg.:** ‘RUSSIA, Primorskii krai/Anisimovka, 5–9.vii.1993/S.A. Belokobylsky leg.’, ‘HOLOTYPE/*Brachyserphus/nudipleuralis* Kolyada sp. n.’ (ZISP). Condition: good, whole.

Paratypes. RUSSIA. Primorsk reg.: 1♀, ‘Anisimovka, 26–27.vi.1996/S.A. Belokobylsky’ (ZISP); 1♀, ‘Vladivostok, 3.vii.1996/S.A. Belokobylsky’ (ZISP); 1♂, ‘20 km SE of Ussurijsk/Gornotayozhnoe, 4–5.viii.1991/S.A. Belokobylsky’ (ZISP); 4♀1♂, ‘Novokachalinsk/Khanka Lake, 7.viii.2006/S.A. Belokobylsky’ (ZISP); **Sakhalin reg.:** 2♀, ‘Kunashir I., 5.ix.1976/L. Danilovich’ (ZISP); 1♀, ‘Tretyakovo 3–10.viii.1973/D.R. Kasparyan’ (ZISP).

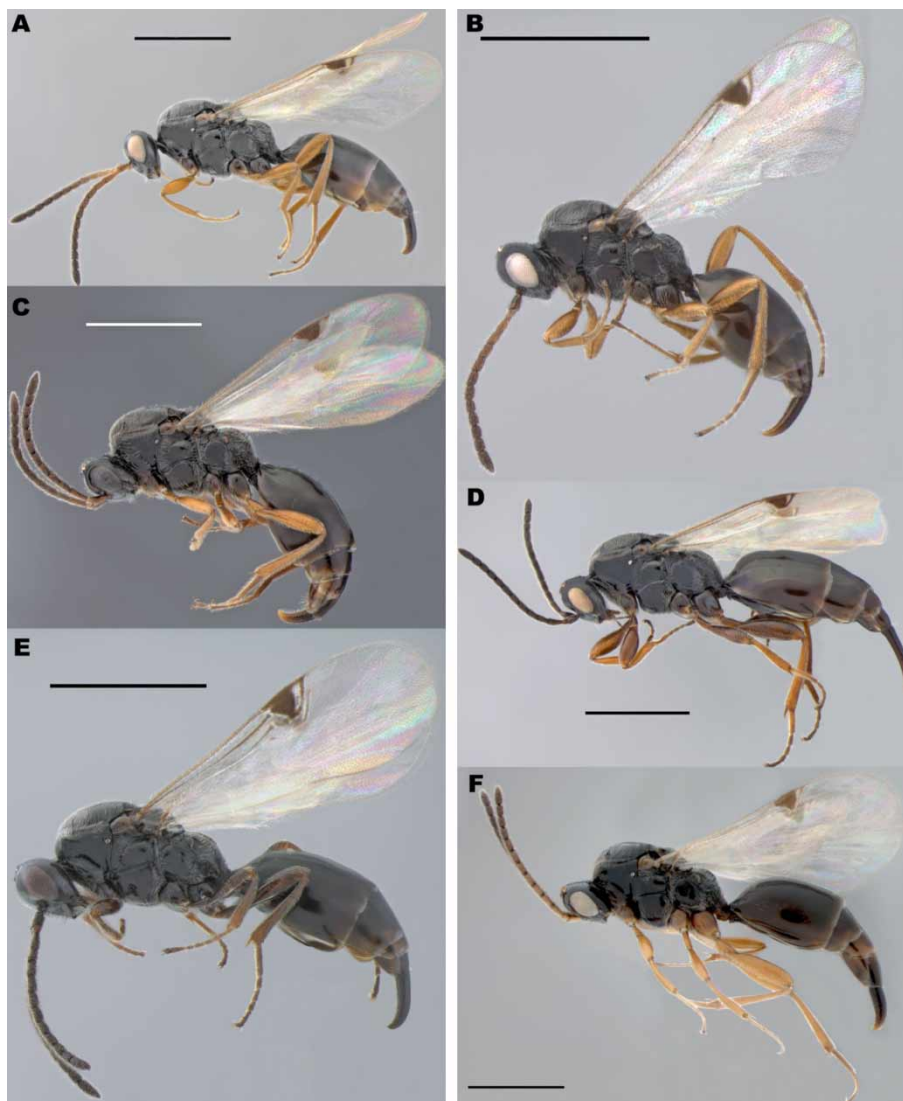


Figure 5. Habitus of *Brachyserphus* spp. (female), lateral view: (A) *B. parvulus*, (B) *B. acuticaudatus* sp. n., (C) *B. hawaiiensis*, (D) *B. lucens*, (E) *B. nudipleuralis*, (F) *B. semipunctatus* sp. n., Scale bar (A–F): 1.0mm.

Additional material examined (non-type)

RUSSIA. Primorsk reg.: 1♀, Vladivostok, 24.viii.1988 SAB (ZISP); Anisimovka, 1♂, 5–9.vii.1993, 9♀, 6–7.viii.1993, SAB (ZISP); 1♀, 10 km SE Chernogolovka, 26–29.viii.1998, SAB (ZISP); 1♀, 25 km SW Slavyanka, 18–20.viii.1998, SAB (ZISP).

Distribution. Russia (Far East).

Brachyserphus parvulus (Nees von Esenbeck 1834)
(Figure 2A, 3C, 4A, C, 5A)

Codrus parvulus Nees von Esenbeck, 1834: 360.

Syntypes: ♂♀

Additional material examined (non-type)

RUSSIA. [European part]: Moscow: 2♀, 19.v.1996, V. Kolyada, & I. Blonski (ZISP); **Moscow reg.:** 1♂, Stupino, 10.x.1994, V. Kolyada (ZISP); **Yaroslavl reg.:** 1♀, Yaroslavskij ujezd, Berditsyno, 23.vii.1897, A. Yakovlev (ZISP); **Novgorod reg.:** 20 km NW Pestovo, 9♀, 5.viii.1990, 1♀, 14.vii.1991, VIT (ZISP); **Arkhangelsk reg.:** 1♂, 25 km SE Arkhangelsk, 7.viii.1977, DRK (ZISP); **Murmansk reg.:** 2♀, Murmansk, 12.viii.1923, Fridolin (ZISP); 1♀, Seidozero 10 km S. Lovozero, 24.vii.1974, DRK (ZISP); **Komi:** 1♀, Uhta, 31.viii.1972, DRK (ZISP); **Perm reg.:** 1♂, Lysva Distr., Kamenka, 5.viii.1963, V. Zherikhin (ZISP); **Krasnodar reg.:** 1♀, Sochi, Lazorevskoje, 11–6.ix.1981, VIT (ZISP); **South Ossetiya:** 1♂, Ertzo Lake, 10.viii.1984, DRK (ZISP);

[Siberia]: **Evenkiya**: 1♀, 1♂, Centralsiberian Reserve, 27.vii.2003, A. Kuvaev (ZISP); [Far East]: **Khabarovsk reg.:** 1♂, Khekhzir Mts, 28–30.vii.1983, DRK (ZISP); **Primorsk reg.:** 1♀, Vladivostok, Akademgorodok, 18.vi.1972, M. Kozlov (ZISP); Vladivostok, 1♀, 11.ix.1982, VIT, 1♀, 29–30.viii.1985, VIT, 1♀, 4–5.ix.1985, VIT, 1♀, 24.viii.1988, SAB (ZISP); Volno-Nadezhdinskoe, 1♂, 4.vii.1996, SAB (ZISP); 4♀, 15 km NW Artem, 6–7.ix.1988, SAB (ZISP); 1♀, 20 km SE Ussurijsk, GTS, 28–31.viii.1978, DRK (ZISP); 1♀, 4–5.viii.1991, SAB (ZISP); 2♀, 1♂, Ussuriiskii Reserve, 26–30.vii.1972, M. Kozlov (ZISP); 10 km SE Chernogovka, 1♂, 27–29.vii.1996, SAB, 5♀, 6♂, 26–29.viii.1998, SAB (ZISP); 3♀, 8♂, Spassk, 10.ix.1981, SAB (ZISP); Spassk, 1♀, 15–16.ix.1987, SAB, 2♀, 11.ix.1988, SAB, 6♀, 6♂, 17–19.viii.1991, SAB, 1♀, 10–13.vii.1993, SAB, 1♂, 17–21.vi.1996, SAB (ZISP); 1♂, 40 km E Chuguevka, 23–25.viii.1978, DRK (ZISP); 1♀, Lazo Reserve, Ta-Chingouz, 16.ix.1948, V. Gussakovskij (ZISP); 1♀, Molchanovsk, 18.vi–1.vii.1972, M. Kozlov (ZISP); 4♂, 10 km SW Sokolcha, 22–24.vii.1993, SAB (ZISP); 1♂, 15 km NWW Partizansk, Fridman, 28.vi.1996, SAB (ZISP); 1♂, 15 km NE Partizansk, Frolovka, 7–8.vii.1996, SAB (ZISP); 1♂, 20 km NNE Partizansk, 10.vii.1996, SAB (ZISP); 1♀, 10 km SSW Partizansk, 13.vii.1996, SAB (ZISP); Anisimovka, 2♀, 1♂, 11–13.ix.1978, DRK, 1♀, 4.ix.1982, VIT, 4♂, 10.viii.1991, SAB, 1♂, 5–9.vii.1993, 1♀, 6–7.viii.1993, SAB (ZISP); Novokachalinsk, 1♀, 29.viii.1987, 1♂, 21–23.vii.1995, SAB (ZISP); 1♀, Novokachalinsk, Khanka Lake, 7.viii.2006, SAB (ZISP); 1♀, Barabash-Levada, 2–4.ix.1978, DRK (ZISP); 1♀, Kedrovaya Pad' Reserve, 21–23.ix.1978, Zinovjev (ZISP); 1♀, 15 km SW Slayvanka, 16.vi.1993, SAB (ZISP); **Sakhalin reg.:** Sakhalin I., Novoaleksandrovka near Yuzno Sakhalinsk, 1♀, 7.ix.1973, DRK (ZISP), 1♂, 13–14.vii.1981, SAB (ZISP); 1♀, 1♂, Kunashir I., Golovnina Mt., 24–26.vii.1973, DRK (ZISP); **Kamchatka reg.:** 3♂, Kozryevsk, 12–24.vii.1985, SAB (ZISP). **GEORGIA:** 1♀, Sukhumi, 30.ix.1932, Belizin (ZISP); 1♀, Borjomi, 19–22.vii.1981, Gurasashvili (ZISP); 2♂, Kazbegi, 4–18.viii.1982, Dbar (ZISP); 1♀, Tsagveri, 14.ix.82, Dbar (ZISP). **KAZAKHSTAN:** 1♀, Kazakh Altai, 7 km SW Upper Khubinka, Uba River, 11.viii.1983, SAB (ZISP).

SOUTH KOREA. (GN): Dapcheon-ri Ibanseong-myeon Jinju-si, 8♀, 27.vi–4.vii.2005, 1♀, 25.vii–11.viii.2005, B.K. Ahn (YUGK); Samjeong-ri, Macheon-myeon, Hamyang-gun, Jirisan, 5♀, 15.ix–13.x.2002, 1♀, 15–22.vi.2003, 1♀, 22.vi–6.vii.2003, (CNCI); (CN): 1♀, Wolpyeong park, Wolpyeong-dong, Seo-gu, Daejeon-si, 20.vi–10.viii.2008, J.W. Lee (YUGK); 1♀, Daegok-ri Haemi-myeon Seosan-si, 8–23.vii.2009, J.W. Lee (YUGK); (GB): 4♀, Jungnyeong Punggi-eup Yeongju-si, 12.vi–23.vii.2008, S.H. Oh &

J.M. Kwon (YUGK); 1♀, Namsan-3ri Gakbuk-myeon Cheongdo-gun, 24.viii–9.ix.2008, J.W. Lee (YUGK); (JB): 1♀, Deungcheon-ri wetland Iban-myeon Jeongeu-si, 21.vi.2005, J.W. Lee (YUGK); (GG): 1♀, Kwanag, Manan-gu Anyang-si, 5–19.vii.2007, J.O. Lim (YUGK); 1♀, Gwimok-hill Mt. Myeongzi, Gapyeong-gun, 29.vi.1999, S.M. Ryu (YUGK); (GW): Hudong-ri, Nam-myeon, Chuncheon-si, 1♀, 6–31.vii.2003, 1♀, 5.ix–20.x.2003, (CNCI); Mureung-valley, Samhwa-dong Donghae-si, 1♀, 28.viii–10.ix.2006, 1♀, 31.viii–10.ix.2006, J.W. Lee (YUGK); (JJ): 6♀, Jeolmul-Oreum, Bonggae-dong, Jeju-si, 9–16.vii.2005, C.H. Sin (YUGK).

Distribution. Holarctic: Europe (Hedqvist 2007; Townes and Townes 1981; Zetel 1991), Russia, Georgia, Kazakhstan (Kolyada 1997; Kozlov 1978), Northern Japan (Pschorn-Walcher 1964), South Korea; USA, Canada (Townes and Townes 1981).

Biology. Parasitoids of larvae of *Meligethes* sp. (Nitidulidae), *Triplax* sp. (Erotylidae), *Phalacrus corruscus* Panz. (Phalacridae), *Orchesia micans* Panz. (Melandryidae) (Townes and Townes 1981).

Remarks. The species is variable in some characteristics, especially of the Eastern Palearctic forms. Body length 1.8 to 5.0 mm, forewing length 1.8 to 3.2 mm. Pronotal tubercles sometimes have weak longitudinal wrinkles; propodeum dorsolaterally with 12 to 45 hairs. Ovipositor sheath also varies, with the ratio of ovipositor sheath to metatibia length ranging from 0.44 to 0.65, and the ratio of length of ovipositor sheath varies to the width ranging from 3.0 to 4.3. Type material was destroyed and lost.

Brachyserphus semipunctatus Kolyada sp. n.

(Figure 3G, 4B, D, 5F)

Type material

Holotype: female. **RUSSIA. Primorsk reg.:** 'RUSSIA, Primorskii krai/10 km South-East Chernogolovka/26–29.viii.1998/S.A. Belokobylsky.' (ZISP), 'HOLOTYPE /*Brachyserphus/semipunctatus* Kolyada sp. n.' (ZISP). Condition: good whole.

Paratypes. RUSSIA. [European part]: **Smolensk reg.:** 1♀, 'Smolenskoe Poozerje Nat. Res/vi–viii.1993/D.R. Kasparyan' (ZISP); **Karelia:** 1♀, 'Girvas/7.ix.2003, A. Humala' (ZISP); [Siberia]: **Altay:** 1♀, 'NW edge Teletzkoe lake/Artibash, 26.vii.2007/S.A. Belokobylsky' (ZISP); [Far East]: **Khabarovsk reg.:** 1♀, 'Amur River/23.viii.1970, D.R. Kasparyan' (ZISP); **Primorsk reg.:**

1♀, 'Vladivostok, 24.viii.1988/S.A. Belokobylsky' (ZISP); 3♀, '15 km NW Artem, 6–7.ix.1988/S.A. Belokobylsky' (ZISP); 1♀, '20 km SE Ussurijsk, GTS, 4–5.viii.1991/S.A. Belokobylsky' (ZISP); 1♀, 'Kedrovaya Pad' Reserve, 27–30.viii.1995/S.A. Belokobylsky' (ZISP); 1♀, 'Anisimovka, 4–5.ix.1988/S.A. Belokobylsky' (ZISP); 1♀, 'Anisimovka, 6–7.viii.1993/S.A. Belokobylsky' (ZISP); 1♀, 'Spassk, 19–23.viii.1987/S.A. Belokobylsky' (ZISP); 3♀, 'Spassk, 11.ix.1988/S.A. Belokobylsky' (ZISP); 1♀, 'Spassk, 20–22.ix. 1988/S.A. Belokobylsky' (ZISP); 2♀, 'Spassk, 17–18.viii.1991/S.A. Belokobylsky' (ZISP); 2♀, '10 km SE Chernogolovka/26–29.viii.1998, S.A. Belokobylsky' (ZISP); **Sakhalin reg.:** 3♀, 'Sakhalin I. /Novoaleksandrovka near Yuzno Sakhalinsk/7.ix.1973, D.R. Kasparyan' (ZISP); 2♀, 'Iturup I. /Kurilsk/22.viii.1973, D.R. Kasparyan' (ZISP); 1♀, 'Kunashir I. /22.viii–1.ix. 1973/D.R. Kasparyan' (ZISP). **UKRAINE:** 1♀, 'Zakarpattje/Ivano-Frankivsk distr. /Goverla Mt., 21–28.viii. 1989/D.R. Kasparyan' (ZISP).

SOUTH KOREA. (GW): 'Hudong-ri, Nam-myeon/Chuncheon-si', 3♀, 6–31.vii.2003, 3♀, 31.vii–16.viii. 2003, 2♀, 5.ix–20.x.2003, (CNCI);

Description. Female.

Body length 4.0–4.3 mm, Forewing length 3.0–3.2 mm. Antenna short, length to width ratio of second flagellomere 1.67–2.0. Pronotum and pronotal tubercle smooth, without wrinkles. Epomia not interrupted and dorsally connected with carina to pronotal shoulder. Metapleurum with developed metapleural epicoxal carina. Propodeum just behind spiracle and apical area of dorsum finely reticulate. Propodeum dorsolaterally with ca. 30–40 hairs. Ratio of ovipositor sheath to metatibia length 0.5–0.6. Ovipositor sheath is thick and gradually tapered, curved, and pointed apically.

Color. Body black. Labrum, mandibles, scapus, tegula and legs except coxa yellow or light brown. Coxae black to dark brown. Maxillary palpus of yellow color, rarely light-brown.

Male unknown.

Distribution. Ukraine, Russia, South Korea.

Comparison. Similar to *B. parvulus* (Nees von Esenbeck 1834) in many characteristics, but differs by the

punctated area in the anterior part of the fifth tergite not reaching one-half of its length and not including the row of hairs in the posterior part of tergite, as well as by the form of the ninth of flagellomere.

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