FIVE NEW SPECIES OF THE FAMILY SCATHOPHAGIDAE (DIPTERA) FROM CHINA

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Five new species of Scathophagidae (Parallelomma melanothorax sp. n., P. chinensis sp. n., P. belousovi sp. n., P. kabaki sp. n., and Megaphthalmoides nigroantennatus sp. n.) are described from China. Completely black thorax is typical for all new Parallelomma species and distinguishes them from the other species of this genus. Key to species of Parallelomma of China is given.

KEY WORDS: Diptera, Scathophagidae, Parallelomma, Megaphthalmoides, taxonomy, new species, China.
INTRODUCTION

Parallelomma Strobl, 1894 and Megaphthalmoides Ringdahl, 1936 are small genera within the family Scathophagidae. Nine–eleven species of Parallelomma are known in the World (Vockeroth, 1965, 1977; Gorodkov, 1986; Ozerov, 2009, 2010), and only one of them, P. albamentum (Séguy, 1963), was registered in China. The larvae of Parallelomma mine leaves of Liliaceae and Orchidaceae. Megaphthalmoides includes two described species, M. unilineatus (Zetterstedt, 1938) and M. japonicus Ozerov, 2009 (Ozerov, 2009), both not registered in China.

While determining new material of Scathophagidae from China has been received by the collection of Zoological Museum of the Moscow State University (ZMUM) in 2011 I discovered four more undescribed species of Parallelomma and one new species of Megaphthalmoides. The descriptions of these species are given below. Holotypes and paratypes of the new species are kept in ZMUM.

All four new species of Parallelomma may be separated from all other species of this genus by the completely black thorax (Fig. 9). P. albamentum, as well as two other species, P. vittatum (Meigen, 1826) and P. merzi Ozerov, 2009, mentioned in Oriental region has yellow thoracic sclerites (katepisternum, meron, and metepisternum). All new species of Parallelomma together with P. vittatum has similar structures of male sternites 4 and 5, cerci and surstyli. Differences between China species of Parallelomma given in key below.

Terminology follows McAlpine (1981) and White et al. (1999). The following abbreviations are used: a – anterior; p – posterior; d – dorsal; v – ventral; and combinations of these latter four, all used for leg chaetotaxy.

DESCRIPTIONS OF NEW SPECIES

Parallelomma melanothorax Ozerov, sp. n.
Figs 1–4, 9


DESCRIPTION. MALE. Frons black with brownish, matt. Face black. Parafacial yellow. Gena brown. Postcranium black, greyish microtrichose. Ocellar triangle black. Antennae, palpi and prementum black. 2 orbitals, 2 frontals, 1 ocellar, 1 weak posterolateral, 1 inner vertical, and 1 outer vertical (approximately 1/3–1/2 times as long as inner vertical). Postcranium with short black setulae in upper part and yellow hairs in lower part. 1 vibrissa present. Postpedicel rounded apically, approximately 2 times as long as wide. Arista very short haired on whole length.

Thorax completely black, subshining. Scutum with 1 short postpronotal, 2 notopleurals (posterior weaker than anterior), 0+1 supra-alar, 2 postalar, 1+3 weak dorsocentrals; intra-alar and acrostichal setae absent; 1 proepisternal and 1 proepimeral
setae present, both near lower margin; proepisternum without setulae at middle; an-
episternum with hairs in posterior part and 2–3 long setae (setulae) near posterior
margin; katepisternum with 1 strong seta near upper posterior corner. Scutellum
with 2 strong subapical setae, apicals as hairs.

Legs black, only only forefemur apically, foretibia basally and hindtibia brownish.
Forefemur with 1 pv and 1 pd near apex and with 2 pd at middle. Foretibia with 1 p
at middle and with ring of apical setae. Midfemur with 2–3 a and 1 apical p. Midtibia
with 2 pd, 1 a in apical third, and with ring of apical setae. Hindfemur with 1 ad at
middle and 1 apical a. Hindtibia with 2 ad and 2–3 pd, and apicals d, ad and av.

Wing blackish; veins black. Upper calypter darkened, with dark margin. Lower
calypter and haltere whitish.

Fig. 1. Parallelomma melanothorax sp. n., adult, holotype.
Abdomen black, shining, covered with black hairs, with long lateral marginal setae on tergites (1+2)–5 and long lateral setae at middle on tergite 1+2. Sternites 4 and 5 as in Figs. 1, 2. Epandrium and surstyli as in Figs. 3, 4.

MEASUREMENTS. Length of body 4.5–5.1 mm, length of wing 4.2–4.6 mm.

FEMALE unknown.

DISTRIBUTION. China: Sichuan, Yunnan.

Figs 2-9. *Parallelomma melanothorax* sp. n., male paratype (2-5) and *P. chinensis* sp. n., holotype (6-9): 2, 6 – sternite 4; 3, 7 – sternite 5; 4, 8 – epandrium and surstyli, lateral view; 5, 9 – same, dorsal view.

*Parallelomma chinensis* Ozerov, sp. n.

Figs 5–8


Antennae, palpi and prementum black. 2 orbitals, 2 frontals, 1 ocellar, 1 weak posteroventral, 1 inner vertical, and 1 outer vertical (approximately 1/2 times as long as inner vertical). Postcranium with short black setulae in upper part and yellow hairs in lower part, 1 vibrissa present. Postpedicel rounded apically, approximately 2 times as long as wide. Arista very short haired on whole length.

Thorax completely black, subshining. Scutum with 1 long postpronotal, 2 notopleurals (posterior weaker than anterior), 0+1 supra-alars, 2 postalars, 1+3 dorsocentrals (only prescutellar strong); intra-alar and acrostichal setae absent; 1 proepisternal and 1 proepimeral setae present, both near lower margin; proepisternal without setulae at middle; anepisternum with hairs in posterior part and 1–2 long setae near posterior margin; katepisternum with 1 strong long seta near upper posterior corner. Scutellum with 2 strong subapical setae (1 pair), apicals as hairs.

Legs yellow, only mid and hind coxae and all tarsi blackish; mid and hind femora each with black ring apically. Forefemur with 1 p near apex and with 3 pd at middle. Foretibia with 2 p at middle and with ring of apical setae. Midfemur with row setae anteriorly and 1 apical p. Midtibia with 2 pd, 1 a in apical third, and with ring of apical setae. Hindfemur with row ad and apically with 1 a and 1 av. Hindtibia with 2 ad and 2 pd, and apicals d, ad and av.

Wing blackish; veins black. Upper calypter darkened, with dark margin. Lower calypter and haltere whitish.

Abdomen black, shining, covered black hairs, with long lateral marginal setae on tergites (1+2)–5 and long lateral setae at middle on tergite 1+2. Sternites 4 and 5 as in Figs. 5, 6. Epandrium and surstyli as in Figs. 7, 8.

MEASUREMENTS. Length of body 5.0 mm, length of wing 4.6 mm.

FEMALE unknown.

DISTRIBUTION. China: Sichuan.

Parallelomma belousovi Ozerov, sp. n.

Figs 10–13

MATERIAL. Holotype – ♂, China: Sichuan, SW Pingchuan Town (22°39′35″ N, 101°44′28″ E), 3445 m, 16.VII 2011, leg. Belousov, Kabak. Paratypes: 1 ♀, same label as holotype; 1 ♀, China: Sichuan, SW Mianning Town (28°15′19″ N, 101°43′42″ E), 3960 m, 09.VII 2011, leg. Belousov, Kabak.

DESCRIPTION. MALE. FEMALE. Frons yellow, matt, subshiny black along margin of eye. Face, parafacial and gena pale yellow. Postcranium black in upper part and yellow in lower third, subshining. Ocellar triangle black. Scapus and pedicel yellow, postpedicel black. Palpi, prementum pale yellow. 2 orbitals, 2 frontals, 1 ocellar, 1 weak posteroventral, 1 inner vertical, and 1 outer vertical (approximately 1/3–1/2 times as long as inner vertical). Postcranium with short black setulae in upper part and yellow hairs in lower part, 1 vibrissa present. Postpedicel rounded apically, approximately 2 times as long as wide. Arista very short haired on whole length.
Thorax black, shining, only proepisternum and proepimeron near lower margin and katepimeron yellow. Scutum with 2 notopleurals (posterior weak that anterior), 0+1 supra-alars, 2 postalars, 1+3 weak dorsocentrals; postpronotal, intra-alar and acrostichal setae absent; 1 proepisternal and 1 proepimeral setae present, both near lower margin; proepisternal without setulae at middle; anepisternum with hairs in posterior part and 1–2 long setae or setulae near posterior margin; katepisternum with 1 strong seta near upper posterior corner. Scutellum with 2 strong subapical setae, apicals as hairs.

Figs 10-17. *Parallelomma belousovi* sp. n., male paratype (10-13) and *P. kabaki* sp. n., holotype (14-15): 10, 14 – sternite 4; 11, 15 – sternite 5; 12, 16 – epandrium and surstyli, lateral view; 13, 17 – same, dorsal view.

Legs yellow, mid and hind femora each with small dorsal black spot apically. Forefemur with 1 *p* near apex and with 2 *pd* at middle. Foretibia with 1 *a/ad* (male) or 1 *pd* (female) and 1 *p* at middle and with ring of apical setae. Midfemur with row of setae anteriorly and 1 apical *p*. Midtibia with 2 *p/pd*, with 1 *a* in apical third, and with ring of apical setae. Hindfemur with 2–3 *ad* in apical half, with 1–2 *av* apically. Hindtibia with 2 *ad* and 2 *pd*, and apicals *d, ad* and *av.*
Wing slightly brownish; veins brown. Calypters, their margins and haltere whitish.

Abdomen black, shining, covered with black hairs, with long lateral marginal setae on tergites (1+2)–5 and long lateral setae at middle on tergite 1+2. Sternites 4 and 5 as in Figs. 10, 11. Epandrium and surstyli as in Figs. 12, 13.

MEASUREMENTS. Length of body 3.8–5.0 mm, length of wing 4.1–4.8 mm.

ETYMOLOGY. The new species is named after the collector, I.A. Belousov.

DISTRIBUTION. China: Sichuan.

**Parallelooma kabaki Ozerov, sp. n.**

**Figs 14–17**


DESCRIPTION. MALE. Frons from blackish in upper part to reddish in lower part, matt, subshiny black along margin of eye. Face black. Parafacial blackish. Gena and postgena yellow. Postcranium black, greyish microtrichose. Ocellar triangle black. Scapus and pedicel yellow, postpedicel black. Palpi and prementum black. 2 orbitals, 2 frontals, 1 ocellar, ?1 weak posteroventral, 1 inner vertical, and 1 outer vertical (approximately 1/2 times as long as inner vertical). Postcranium with short black setulae in upper part and yellow hairs in lower part. 1 vibrissa present. Postpedicel rounded apically, approximately 2 times as long as wide. Arista very short haired on whole length.

Thorax completely black, subshining. Scutum with 2 notopleurals (posterior weaker than anterior), 0+1 supra-alars, 2 postalars, 1+3 weak dorsocentrals; postpronotal, intra-alar and acrostichal setae absent; 1 proepisternal and 1 proepimeral setae present, both near lower margin; proepisternal without setulae at middle; anepisternum with hairs in posterior part and 1–2 long setae or setulae near posterior margin; katepisternum with 1 strong seta near upper posterior corner. Scutellum with 2 strong subapical setae, apicals as hairs.

Legs yellow, mid- and hindfemora each with dorsal black spot or ring apically, all tarsi dark brown. Forefemur with 1 p near apex and with 2–3 pd at middle. Foretibia with 1 p at middle and with ring of apical setae. Midfemur with row of weak setae anteriorly and 1 apical p. Midtibia with 1 p in basal half, with 1 a apical half, and with ring of apical setae. Hindfemur with 2–3 weak ad, with 1 a and 1 v apically. Hindtibia with 2 ad and 2 pd, and apicals d, ad and av.

Wing brownish; veins brown. Calypters, their margins and haltere whitish.

Abdomen black, shining, covered with black hairs, with long lateral marginal setae on tergites (1+2)–5 and long lateral setae at middle on tergite 1+2. Sternites 4 and 5 as in Figs. 14, 15. Epandrium and surstyli as in Figs. 16, 17.

MEASUREMENTS. Length of body 4.8 mm, length of wing 4.6 mm.

FEMALE unknown.

ETYMOLOGY. The new species is named after the collector, I.I. Kabak.

DISTRIBUTION. China: Sichuan.
Key to species of *Parallelomma* of China

1. Katepisternum, meron and metepisternum white ……. *P. albamentum* (Séguy)
   – Katepisternum, meron and metepisternum black ……………………………2

2. Pedicel white. Coxae yellow. Wing slightly darkened ………………… 4
   – Pedicel black. Forecoxa blackish, mid- and hindcoxae black. Wing blackish … 3

3. **pprn** weak. Mid- and hindfemur completely blackish. Male sternites 4 and 5 as in Figs. 1, 2. Epandrium and surstyli as in Figs. 3, 4 ……… *P. melanothorax* sp. n.
   – **pprn** very strong. Mid- and hindfemur yellow, with black ring apically. Male sternites 4 and 5 as in Figs. 5, 6. Epandrium and surstyli as in Figs. 7, 8 ……… ……………………………………………………………………………………………………………………………………………………………………………………………..……..…

4. Palpus and face white. Male sternites 4 and 5 as in Figs. 10, 11. Epandrium and surstyli as in Figs. 12, 13 ………………………………….. *P. belousovi* sp. n.
   – Palpus and face black. Male sternites 4 and 5 as in Figs. 14, 15. Epandrium and surstyli as in Figs. 16, 17 ……………………………...……… *P. kabaki* sp. n.

*Megaphthalmoides nigroantennatus* Ozerov, sp. n.


DESCRIPTION. FEMALE. Head yellow, higher than wide in profile; frons reddish, matt. 2 orbitals, 2 frontals, 1 ocellar, 1 postocellar (divergent), 1 inner vertical, 1 outer vertical, 2 postgenital setae; 2 pairs of vibrissae and several sub-vibrissae. Antenna black. Postpedicel rounded apically, approximately 3 times as long as wide. Arista black, short haired on whole length. Palpus filiform, yellow with blackish tip.

Thorax and scutellum brownish, subshining, scutum with 3 blackish stripes. Scutum with 2 postpronotals, 2 notopleurals, 0+1 intra-alars, 1+2 supra-alars, 2 postalars, 2+3 dorsocentrals; 1 weak acrostichal, 2 proepisternal, 3 anepisternal (near posterior margin) and 1 long katepisternal (in upper posterior corner) setae present. Proepisternum with 1–2 hairs at middle. Anepimeron with 1 setulae at middle. Scutellum with 2 pairs (apical and basal) of strong setae.

Legs yellow, but forefemur dorsally and all tarsi black, mid- and hindfemora each with dorsal black spot apically. Fore femur with row of *pd*, with 3–4 *a* and 2–3 *av* in apical third. Fore tibia with 3 *d* (including preapical), 2 *p* (including preapical), and apical *v*. Mid femur with row of *a*, 1 preapical *p* and 1 preapical *pd*. Mid tibia with 2 *pd*, 2 *ad*, 1–2 *v* and ring of apicals setae. Hind femur with row of *ad*, 3–4 *v* in apical third, and 1 preapical *a* and 1 apical *p*. Hind tibia with 3 *pd*, 3 *ad*, 1 preapical *d*, 1 apical *v* and 1 apical *av*.

Wing with a brownish tinge, without dark spots; veins brown. Costal vien with strong spinules. R 1 bare. Calypters, their margins and haltere yellow.

Abdomen with blackish tergites (1+2)–4, tergite 5 with yellowish lateral spots; sternites brownish.
MEASUREMENTS. Length of body 5.8 mm, length of wing 6.5 mm.

MALE unknown.

COMPARISON. *Megaphthalmoides nigroantennatus* sp. n. may be easily separated from the other species of the genus *Megaphthalmoides* by the completely black antenna. *M. unilineatus* as well as *M. japonicus* has yellow scapus and pedicel.

DISTRIBUTION. China: Sichuan.

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REFERENCES


SHORT COMMUNICATION


Summary. Distributional data of eight species of spider wasps from Russia Far East are supplemented. Four species are newly recoded from Jewish autonomous oblast, two species – from Khabarovskii krai and Buryatia, one species – from Chukotka, Magadanskaia and Amurskaya oblast, and Primorskii krai.

Key words: Hymenoptera, Pompilidae, distribution, Russian Far East.


Резюме. Уточнено распространение восьми видов дорожных ос на Дальнем Востоке России. Четыре вида впервые указываются для Еврейской АО, по два вида – для Хабаровского края и Бурятия, по одному виду – для Чукотки, Магаданской и Амурской областей и Приморского края.

INTRODUCTION

Based on the material of spider wasps deposited in the collection of Institute of Biology and Soil Science (Vladivostok, Russia) new distributional data for eight species are given. New distribution data are asterisked (*).

Family Pompilidae

Anoplius (Anoplius) aberrans Gussakovskij, 1932


DISTRIBUTION. Russia (*Khabarovskii krai, Amurskaya oblast, *Jewish autonomous oblast, Primorskii krai, Sakhalin, Kuril Islands, Kamchatka, Magadanskaia oblast, *Buryatia, Irkutskaya oblast), Japan (Hokkaido, Honshu), Republic of Korea, China (Guangdong, Taiwan), Philippine (Luzon), Indonesia (Celebes), Uzbekistan (Lelej, 2005).

REMARK. The status of this species is discussed in Loktionov & Lelej (2012).

Anoplius (Anoplius) sachalinensis Lelej, 1994

MATERIAL. Primorskii krai: Ussuriiskii Natural reserve, 11.IX 1979, 1 ♂ (Kupianskaya); Lazovskii reserve, Pravaya Sokolovka River, 28.VI 2008, 1 ♂ (Loktionov).

DISTRIBUTION. Russia (Amurskaya oblast, south of Khabarovskii krai, *Primorskii krai, South Sakhalin, Kuril Islands), Japan (Hokkaido) (Lelej, 2005).
**Episyron arrogans** (Smith, 1873)

**MATERIAL.** Jewish autonomous oblast: Radde, 13, 15 VII 2003, 1 ♀, 5♂ (Belokobylskii); 5 km N of Pashkovo, 11.VII 2003, 1 ♀ (Belokobylskii); Natural Reserve "Bastak", 1–3.VII 2004, 2♂ (Proshchalykin); Medvezhii Utes Mt., 17.VI 2005, 1♂ (Proshchalykin); 20 km NW of Amurzet, 17.VI 1985, 1♂ (Belokobylskii).

**DISTRIBUTION.** Russia (Khabarovskii krai, Amurskaya oblast, *Jewish autonomous oblast, Primorskii krai, Kuril Islands, Irkutskaya oblast, European part of Russia), Japan (Hokkaido, Honshu, Kyushu, Tsushima, Ryukyus), Republic of Korea, China (Liaoning, Henan, Jiangsu, Zhejiang, Fujian, Taiwan), Ukraine, Belarus, Western Europe, Philippine (Lelej, 2000; Tobias, 1978).

**Auplopus** (*Auplopus*) **pygialis** (Pérez, 1905)


**Caladiurgus ussuriensis** (Gussakovskij, 1932)

**MATERIAL.** Khabarovskii krai: Komsomolsk-na-Amure, 7.VIII 1986, 1♀ (Mutin).

**DISTRIBUTION.** Russia (*Khabarovskii krai, Amurskaya oblast, Primorskii krai, South Sakhalin, Kuril Islands), Japan (from Hokkaido to Yakushima), Republic of Korea, China (Henan, Jiangxi, Zhejiang, Taiwan) (Lelej, 2005).

**Dipogon** (*Deuteragenia*) **vechti** Day, 1979


**DISTRIBUTION.** Russia (Khabarovskii krai, Amurskaya oblast, *Jewish autonomous oblast, Primorskii krai, Sakhalin, Kuril Islands, Kamchatka, Magadanskaya oblast, *Chukotka, Irkutskaya oblast, Siberia, European part), Japan (Hokkaido, Honshu), Central Asia, Belarus, Western Europe (Lelej, 2005).

**Eopompilus internalis** (Matsumura, 1911)


**DISTRIBUTION.** Russia (Khabarovskii krai, *Amurskaya oblast, Primorskii krai, Sakhalin, Kuril Islands), Japan (from Hokkaido to Tanegashima), Republic of Korea (Lelej, 2005).

**Priocnemis** (*Umbripennis*) **japonica** Gussakovskij, 1930

DISTRIBUTION. Russia (Kabarovskii krai, Amurskaya oblast, *Jewish autonomous oblast, Primorski krai, South Sakhalin, Kuril Islands, *Magadanskaya oblast, Japan (Hokkaido, Honshu), Republic of Korea (Lelej, 2005).

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