



Far Eastern Entomologist

Дальневосточный энтомолог

Journal published by Far East Branch
of the Russian Entomological Society
and Laboratory of Entomology,
Institute of Biology and Soil Science,
Vladivostok

Number 244: 1-9

ISSN 1026-051X

March 2012

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.

А.Л. Озеров. Пять новых видов двукрылых семейства Scathophagidae (Diptera) из Китая // Дальневосточный энтомолог. 2012. N 244. С. 1-9.

Из Китая описаны пять новых видов из семейства Scathophagidae (Diptera): *Parallelomma melanothorax* sp. n., *P. chinensis* sp. n., *P. belousovi* sp. n., *P. kabaki* sp. n. и *Megaphthalmoides nigroantennatus* sp. n. Новые виды *Parallelomma* сходны между собой и легко отличаются от других видов этого рода полностью черной грудью. Приведена таблица для определения видов рода *Parallelomma* Китая.

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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

MATERIAL. Holotype – ♂, **China:** Sichuan, SW Mianning Town (28°15'19" N, 101°43'42" E), 3960 m, 09.VII 2011, leg. Belousov, Kabak. Paratypes: 1 ♂, same label as holotype; 1 ♂, China: Yunnan, Ailaoshan Mt. Range W Shuitangzhen Town (24°08'31" N, 101°23'52" E), 2555 m, 04.VI 2011, leg. Belousov, Kabak.

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 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 completely black, subshining. Scutum with 1 short postpronotal, 2 notopleurals (posterior weaker than anterior), 0+1 supra-alars, 2 postalars, 1+3 weak dorsocentrals; 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 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 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

MATERIAL. Holotype – ♂, **China**: Sichuan, SW Mianning Town (28°15'19" N, 101°43'42" E), 3960 m, 09.VII 2011, leg. Belousov, Kabak.

DESCRIPTION. MALE. Frons black with brownish, matt. Face black. Parafacial and gena brown. Postcranium black, greyish microtrichose. Ocellar triangle black.

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; katapisternum 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.

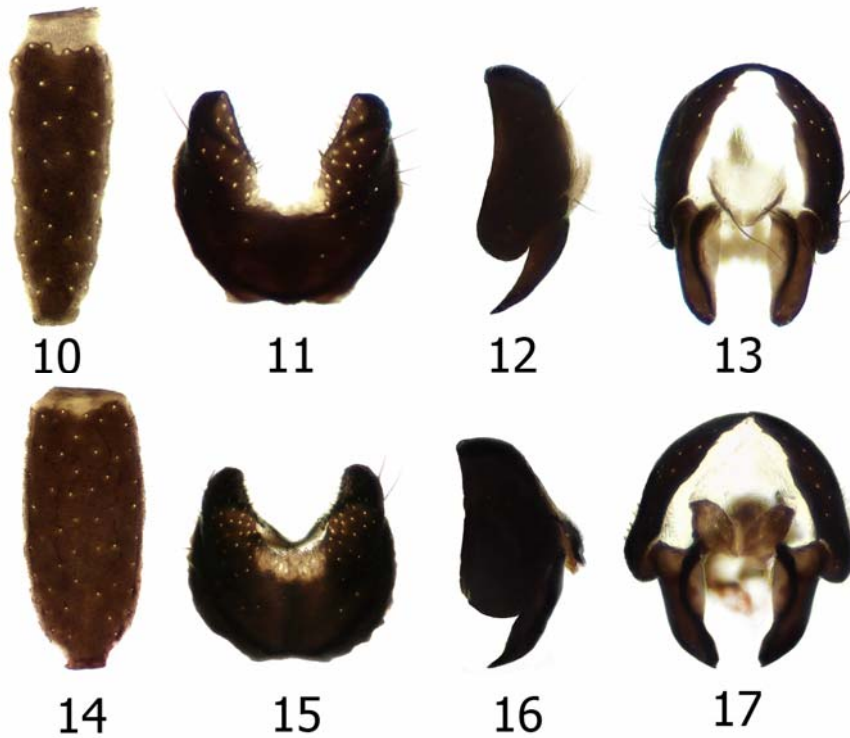
***Parallelomma belousovi* Ozerov, sp. n.**

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.

***Parallelomma kabaki* Ozerov, sp. n.**

Figs 14–17

MATERIAL. Holotype – ♂, **China**: Sichuan, SW Pingchuan Town (22°39'35" N, 101°44'28" E), 3445 m, 16.VII 2011, leg. Belousov, Kabak.

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
..... *P. chinensis* sp. n.
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.

MATERIAL. Holotype – ♀, **China**: Sichuan, SW Mianning Town (28°15'19" N, 101°43'42" E), 3960 m, 09.VII 2011, leg. Belousov, Kabak. Paratype: 1 ♀, same label as holotype.

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 subvibrissae. 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.

ACKNOWLEDGEMENTS

I wish to thank Viktor Kolyada (Moscow), who provided material of Scathophagidae for the present study.

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